FMFM 6-3

MARINE INFANTRY BATTALION

U.S. MARINE CORPS

PCN 139 000450 00

DEPARTMENT OF THE NAVY
HEADQUARTERS UNITED STATES MARINE CORPS
WASHINGTON, D.C. 20380

16 March 1978

FOREWORD

1. PURPOSE

This publication, FMFM 6-3, Marine Infantry Battalion, sets forth the doctrine, tactics, and techniques to be employed in operations and training within the Fleet Marine Forces.

2. SCOPE

This manual provides information and guidance for the infantry battalion commander, his staff, and his subordinate commanders in planning, preparing for, and conducting combat operations. It sets forth the principles applicable to the tactical employment of the Marine infantry battalion and discusses organization for combat and fundamental considerations in the conduct of offensive and defensive combat incident to amphibious operations. It also serves as a guide for commanders of supporting units and for staff officers of higher headquarters who may be required to submit recommendations concerning the employment of the infantry battalion.

3. SUPERSESSION

FMFM 6-3 dated 18 June 1974.

4. CHANGES

Recommendations for improving this manual are invited. Comments and recommended changes should be forwarded to Commanding General, Marine Corps Development and Education Command (Code D 03), Quantico, Virginia 22134.

5. CERTIFICATION

Reviewed and approved this date.

BY DIRECTION OF THE COMMANDANT OF THE MARINE CORPS

J. C. FEGAN
Lieutenant General, U.S. Marine Corps
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TO: Commanding General
Marine Corps Development and Education Command
(Code D 03)
Quantico, Virginia 22134

USER SUGGESTION FORM

From:

To: Commanding General, Marine Corps Development and Education Command (Code 03), Quantico, Virginia 22134

Subj: FMFM 6-3, Marine Infantry Battalion

1. In accordance with the Foreword to FMFM 6-3, which invites individuals to submit suggestions concerning this FMFM directly to the above addressee, the following unclassified recommendation(s) is(are) forwarded:

a. ITEM #1 (May be handwritten; if more space is required, use additional sheets and envelope.)

(1) Portion of Manual: (Cite by paragraph and/or page number.)

(2) Comment: (Explain in sufficient detail to identify the points of the suggestion.)

(3) Recommendation: (State the exact wording desired to be inserted into the manual.)

b. ITEM #2

(1)

(2)

(3)

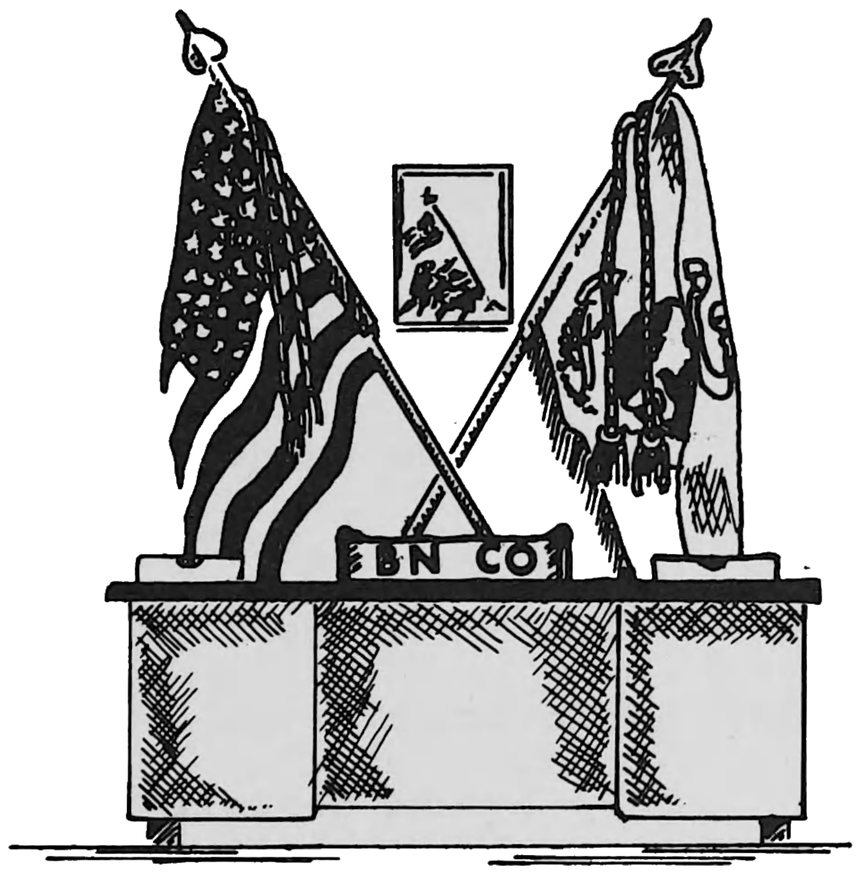
RECORD OF CHANGES

Change No.	Date of Change	Date of Entry	Organization	Signature

MARINE INFANTRY BATTALION

TABLE OF CONTENTS

Section VIII. FIRE SUPPORT PLANNING AND COORDINATION



CHAPTER 1

ORGANIZATION AND COMMAND

Section I. INTRODUCTION

1101. GENERAL

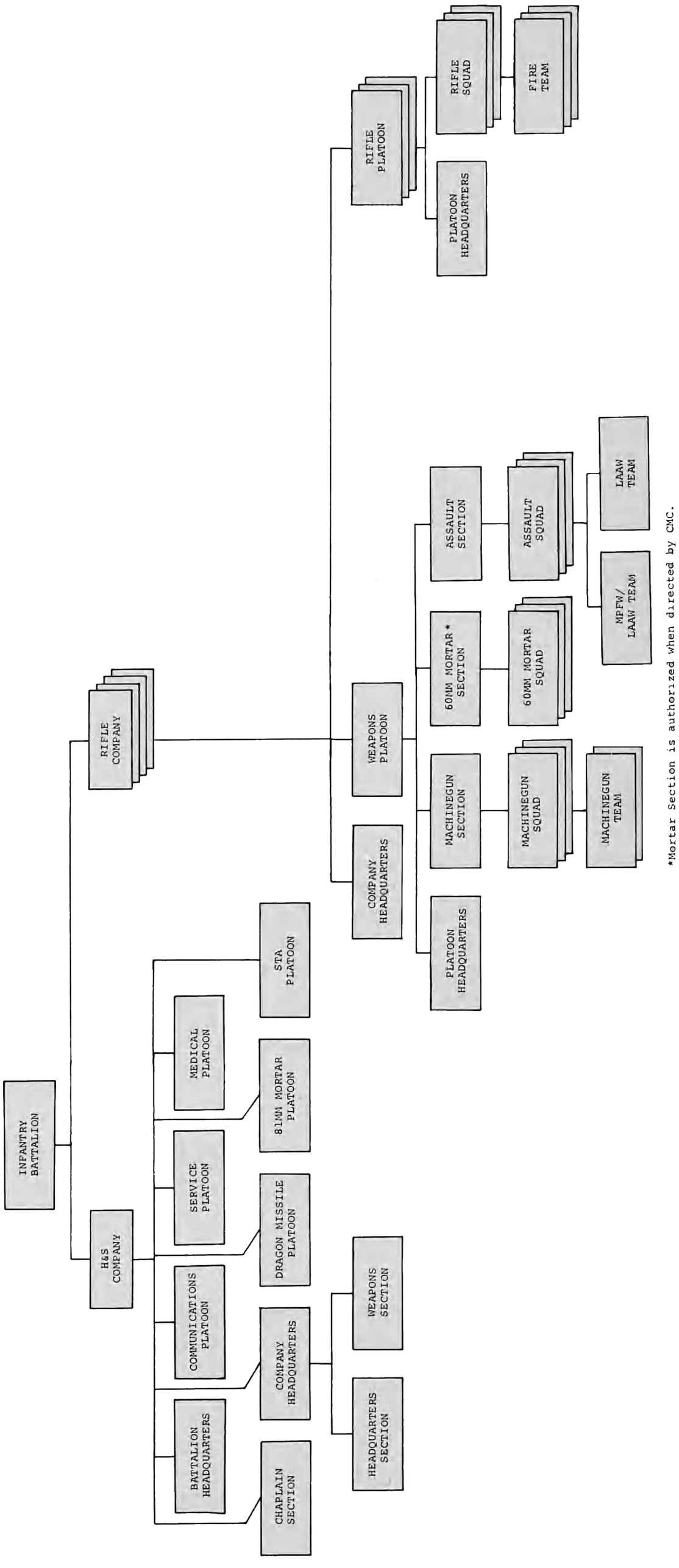
This manual sets forth the mission, organization, and doctrine for the employment of the Marine infantry battalion in amphibious operations and subsequent operations ashore. It is designed primarily to provide information and guidance which will assist the battalion commander and his staff in planning for and conducting combat operations. It should be used in conjunction with FMFM 3-1, Command and Staff Action; FMFM 6-2, Marine Infantry Regiment; FMFM 6-4, Marine Rifle Company/Platoon; and other manuals of the FMFM series.

1102. MISSION

The mission of the Marine infantry battalion is to locate, close with, and destroy the enemy by fire and maneuver, or to repel his assault by fire and close combat.

1103. ORGANIZATION

a. General.--The Marine infantry battalion is the basic tactical unit of ground combat power in the Marine Corps. It provides the nucleus of the battalion landing team (BLT) for amphibious and Marine amphibious unit (MAU) air-ground task force operations. It is a balanced force capable of performing a variety of missions. The battalion command structure is capable of integrating the efforts of attached and supporting units and the structure of the battalion facilitates the formation of task organizations. The subordinate units of the battalion are the headquarters and service company and four rifle companies. (See fig. 1.)



*Mortar Section is authorized when directed by CMC.

Figure 1.--Marine Infantry Battalion.

b. Headquarters and Service (H&S) Company

(1) Battalion headquarters.

(2) Communication platoon:

(a) Platoon headquarters (includes communication maintenance personnel).

(b) Message center section.

(c) Wire section.

(d) Radio section.

(e) Tactical air control party (TACP) section:

1 Air liaison party.

2 Two forward air control parties.

(3) Service platoon:

(a) Platoon headquarters.

(b) Supply section.

(c) Armorer section.

(d) Transportation section.

(e) Mess section.

(4) Company headquarters.

(5) Dragon missile platoon:

(a) Platoon headquarters.

(b) Four antitank assault sections with four antitank squads in each section.

(6) 81mm mortar platoon:

(a) Platoon headquarters.

(b) Four 81mm mortar sections with one forward observer team and two 81mm mortar squads in each section.

(7) Surveillance and target acquisition (STA) platoon:

(a) Platoon headquarters.

(b) Radar section of eight radar teams. (Four radar teams are authorized only when directed by CMC.)

(c) Night observation section of four night observation device (NOD) teams.

(d) Scout section.

(8) Medical platoon:

(a) Two battalion aid stations.

(b) Four company medical teams.

(9) Chaplain section.

c. Four Rifle Companies

(1) Company headquarters.

(2) Weapons platoon:

(a) Platoon headquarters.

(b) Machinegun section of three machinegun squads with two machinegun teams in each squad.

(c) Assault section of three assault squads with one multi-shot portable flame weapon/light antitank assault weapon (MPFW/LAAW) team and one light antitank assault weapon team in each squad.

(d) 60mm mortar section of three squads with one 60mm mortar each. (Section is authorized only when directed by CMC.)

(3) Three rifle platoons:

(a) Platoon headquarters.

(b) Three rifle squads with three fire teams in each squad.

1104. ADMINISTRATION AND LOGISTICS

a. The battalion is capable of self-administration. In combat, when required, a battalion administration center is formed using organic personnel from the battalion headquarters, H&S company, and the rifle companies for centralized control of personnel accounting and administration. The administrative and logistics chain is direct from battalion to division; however, the regimental staff is in a position to materially assist the battalion in these fields.

b. Supply support is provided directly from the division combat service support units to the battalion. The service platoon of the H&S company is capable of effecting internal distribution of supplies.

c. All elements of the battalion are capable of performing first echelon maintenance on all equipment authorized. Second echelon maintenance is provided by the service platoon of the H&S company on all battalion motor transport and ordnance (less fire control instruments); the communication platoon on communication equipment; and the surveillance and target acquisition platoon of the H&S company on surveillance and acquisition equipment. Maintenance above that authorized the battalion is requested directly from the appropriate division unit.

d. Although the regiment is no longer directly in the administrative or logistics chain, the regimental staff is in a position to materially assist the battalion in these fields.

1105. ORGANIZATION FOR COMBAT

a. Organization for combat is the process by which forces are organized or tailored to meet the tactical requirements of the battlefield. Organization for combat accomplishes two specific purposes:

(1) Combines adequate forces to accomplish each element of the assigned mission.

(2) Facilitates command and control.

b. Although the infantry battalion may be employed in land combat without reinforcements, in most situations, reinforcements are required. In organizing for combat, the commander may find it necessary or desirable to attach units or elements of units to another unit, place units or elements in direct or general support of other units, or place units or elements under the operational control of other units. The decision as to which measure will provide the desired control during the operation is based on unit capabilities to control and administer other units and, of course, the requirements of that particular situation. The following definitions apply:

(1) Attachment.--The placement of units or personnel in an organization where such placement is relatively temporary. Subject to limitations imposed by the attachment order, the commander of the formation, unit, or organization receiving the attachment will exercise the same degree of command and control thereover as he does over units and personnel organic to his command. However, the reponsibility for transfer and promotion of personnel will normally be retained by the parent formation, unit, or organization.

(2) Direct Support.--A mission requiring a force to support another specific force and authorizing it to answer directly the supported force's request for assistance.

(3) General Support.--That support which is given the supported force as a whole and not to any particular subdivision thereof.

(4) Operational Control.--Those functions of command involving the composition of subordinate forces, the assignment of tasks, the designation of objectives and the authoritative direction necessary to accomplish the mission. Operational control should be exercised by the use of the assigned normal organizational units through their responsible commanders or through the commanders of subordinate forces established by the commander exercising operational command. It does not include such matters as administration, discipline, internal organization, and unit training, except when a subordinate commander requests assistance. (The term is synonymous with operational command.)

(5) Application to Artillery.--For application to artillery (direct support; general support; reinforcing; and general support, reinforcing), see FMFM 7-4, Field Artillery Support.

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c. The organization for combat in the amphibious operation is discussed in paragraph 2106 and includes a discussion of the air-ground task force.

1106. OPERATIONAL ENVIRONMENT

a. General

(1) The operational environment is a composite of the conditions, circumstances, and influences which affect the employment of military forces and which bear on the decisions of the commander.

(2) The Marine infantry battalion must be prepared to conduct operations under a wide variety of conditions, ranging from situations short of war to general war. The operational environment is determined by the nature of the war, organization of the command, area of operations, and type of operation involved.

b. Nature of the War.--Conflicts between nations may vary from mere disagreements and conflicts of interest to basic and irreconcilable differences in national ideologies and objectives. The former are often subject to resolution by arbitration or concession, but may require "show of force" or limited low intensity conflict operations. In the latter type, differences may be so great that mid and high intensity conflict result. Regardless of the level of intensity, the battalion commander must be prepared to conduct operations independently or as a subordinate maneuver element of a larger force.

c. Organization of the Command.--Operations within the parameters of any level of warfare may find the Marine infantry battalion fighting independently, as part of a joint or combined operation, or as part of an international police force. Determination of the organization will directly affect the application of doctrine based on possible divergence of doctrine, technique, available weapons systems, and custom.

d. Area of Operations.--That portion of an area of conflict necessary for military operations, either offensive or defensive, pursuant to an assigned mission, and for the administration incident to such military operations.

e. Type of Operation.--Recognizing the type of operation or the phase of that operation involved is probably the most important element of the operational environment at the battalion level. Once determined, the type of operation establishes the tactical methods and techniques to be employed in accomplishing the assigned mission.

f. Helicopter Mobility.--The advent of the helicopter has had a profound effect on the organization, equipment, and tactical concepts of the Fleet Marine Force. The most significant of these effects is the increasing importance of flexibility and mobility. Combat is characterized by fast moving, highly fluid actions which place a premium on speed, shock effect, and surprise. The conduct of night amphibious operations is feasible by employing surface or helicopterborne assaults, or a combination of the two types, in order to gain surprise and flexibility. Emphasis is placed upon the quality, quantity, and timeliness of combat intelligence. Reconnaissance and surveillance must extend over wider areas to allow for the increased combat radius of the Marine battalion, and will require increased effort and

allocation of means. Helicopters free the tactical commander from total dependence upon land lines of communication for combat operations and logistic support. Helicopters also give the commander the option of greater mobility. Whether employed during day or night operations, in land warfare, or amphibious operations, he can move his forces over terrain previously considered impassable. The mobility of artillery and other combat support units is equal to or exceeds that of infantry units, allowing closer integration of balanced fighting forces which can move rapidly over long distances to strike the enemy. The combat power possessed by today's Marine air-ground team, properly applied by aggressive, imaginative, and resourceful leaders, will ensure success on the battlefield.

g. Nuclear Weapons.--The following general considerations apply when nuclear weapons are employed by both participants or when operations are conducted in the face of nuclear threat. The application of these is a matter of degree, depending on the nature of the nuclear threat, mission, friendly and enemy capabilities, terrain, weather, and other related factors.

(1) Terrain is a vital consideration; when enemy nuclear capabilities exist, large bodies of troops should not be deployed on easily identifiable terrain features. Instead, key terrain is controlled by securing the approaches to it, by maintaining constant surveillance around and within it, and by controlling it with minimum forces or by fire.

(2) Nuclear combat can reflect sudden and drastic changes in the tactical situation. This requires a responsible and flexible system of command with firm, centralized direction, decentralized execution, and a doctrine that stresses initiative and flexibility on the part of subordinate commanders. Battalion commanders may have many opportunities for decisive action, but the opportunities will usually be of limited duration. The authority to use nuclear weapons provides opportunities for the battalion and its subordinate units to undertake bold and aggressive action, even against numerically superior forces.

(3) Large concentrations of troops and equipment cannot ensure an increase in combat capability sufficient to offset the corresponding increase in vulnerability to nuclear attack. Nevertheless, it is inevitable that forces occasionally concentrate to accomplish a particular mission. Concentrations should be achieved rapidly and should exist for as limited a time as possible.

(4) For exploitation of friendly nuclear fires in both the attack and defense, the battalion achieves a high degree of mobility through use of the helicopter, tracked vehicles, and motor transport; however, when weather or other conditions restrict the use of vehicles and helicopters, the battalion moves primarily on foot.

(5) Active and/or passive measures may be employed in the face of nuclear threat. Active measures, which include air defense, counter-battery fires, and similar activities, are largely the responsibility of echelons higher than the battalion. Passive protective measures are a battalion responsibility and they fall into two categories: defense against troop detection by the enemy and defense against enemy nuclear attack.

(6) Warfare under nuclear conditions, or under the threat of nuclear attack, emphasizes the following factors:

(a) Separation.--The battalion commander separates his forces consistent with the accomplishment of his mission. He does not apply arbitrary figures or the radii of effects of a specific weapon to determine the extent of his subordinate unit separation. Instead, his decisions are made only after an estimate of one or all of the following: mission, terrain, relative strength and mobility of the opposing forces, weather and reconnaissance, and surveillance means available.

(b) Mobility.--Mobility is an important factor in reducing vulnerability to enemy nuclear weapons and for creating favorable conditions for aggressive action against the enemy.

(c) Communications.--The key to control lies in adequate communications. Communication means must permit adequate control under conditions of rapid maneuver and wide separation of units. Whenever possible, additional communications are provided. Normal radio operating difficulties, enemy interference, and unit separation emphasize the need for all means of alternate communications.

Section II. BATTALION COMMANDER AND HIS STAFF

1201. BATTALION COMMANDER

a. General

(1) Command is the authority which a commander in the military service lawfully exercises over his subordinates by virtue of rank or assignment. Command includes the authority and responsibility for effectively using available resources and for planning the employment of, organizing, directing, coordinating, and controlling military forces for the accomplishment of assigned missions. It also includes responsibility for health, welfare, morale, and discipline of assigned personnel.

(2) The commander is responsible for everything the battalion does or fails to do. He meets his responsibilities by sound planning, by making timely decisions, by issuing effective orders, and by personal supervision and leadership. His duties require a thorough understanding of the tactical and technical employment, the capabilities and the limitations of all organic units, and of the units which may be attached to or in support of the battalion.

b. Exercise of Command

(1) The commander prescribes policies, missions, and standards for the battalion. Effective operation requires that sufficient authority be delegated to subordinates so that they can accomplish tasks for which they are responsible.

(2) The commander ensures that his standards are maintained; he does this by means of personal and staff visits and inspections coupled with follow-up action. The combat effectiveness of the unit can be determined only by a continuous evaluation of the indications of leadership: morale, esprit de corps, discipline, and proficiency. The commander will ensure the personal well-being of subordinates by providing for their physical comfort, promoting confidence in and respect for their leaders, providing a sense of accomplishment, and fostering positive mental attitudes.

c. Relations with Staff.--The commander uses his staff to acquire information; make recommendations; prepare estimates, detailed plans, and orders implementing his decisions; coordinate plans and operations; and relieve him of other details. He maintains a close relationship with his staff officers, encourages frank appraisals and free expression of ideas, and in turn, keeps his staff fully informed.

d. Relations with Organic and Attached Unit Commanders and Troops

(1) Organic.--The relationship of the battalion commander with his unit commanders is direct and personal. He encourages them to utilize his staff but to deal directly with him when appropriate. He makes inspections and informal visits to his unit commanders and troops. These actions promote confidence, respect, loyalty, and understanding while giving the commander a firsthand knowledge of the tactical situation and the status of the unit.

(2) Attached.--Attached units are subject to the decision and orders of the battalion commander. An attached unit commander is an advisor to the commander on the employment of that unit. The battalion commander's relations with attached units are essentially the same as with organic units; attached units will be given the same consideration and treatment accorded organic units of the battalion.

e. Relations With Other Units

(1) Supporting Units.--The commander of the supporting unit advises the battalion commander on the capabilities, limitations, and employment of the supporting unit and is responsible for establishing communications with the supported unit. The battalion commander ensures that adequate communications and liaison have been established with the supporting unit, and he keeps them fully informed of the current situation and support needed. He requests support; however, this request is considered an order by the supported unit. In case of conflicting interests, the supporting unit commences the necessary action while concurrently referring the matter to its own parent unit.

(2) Operational Command.--When a unit is placed under the operational command of a battalion, the command relationship is similar to that outlined for an attached unit. The battalion commander will assign missions and direct operations of units under his operational command.

f. Commander in Combat

(1) The battalion commander uses all available means to accomplish his mission. His plans, orders, and supervision ensure that the actions of all units contribute effectively toward that end. When additional combat support or combat service support is required to accomplish the mission, the commander takes action to obtain it. He coordinates the activities of his command with those of adjacent and supporting units.

(2) The battalion commander goes where he can best direct and control the operation. He may be at an observation post, with the main attack element, or anywhere else in his area of operations where his presence is required. Before he leaves the command post, he informs his staff of his itinerary or destination and of plans to be made or action to be taken if the situation changes. When he is away from the command post, he keeps in contact with it by radio, telephone, or other means. Normally, he will keep in contact with higher authority, or if such contact is not possible, he will arrange for such contact to be relayed to him. If he issues orders while away from the command post or obtains pertinent information about the situation, he informs his staff and commanders at the first opportunity.

(3) Although the command post is the nerve center of the battalion, the commander will frequently be required to move to other locations to observe or direct the action. Whether he moves to an observation post, or flies over the battle area in a command and control helicopter, his object is to influence the action by leadership and to establish closer control. The employment of the helicopter allows the commander to move to the point of decision to assess the situation without becoming directly involved or preempting the initiative of subordinate commanders. Personal leadership on the battlefield is an admirable quality, but the battalion commander cannot become so involved in small actions as to lose sight of the accomplishment of the overall mission.

1202. BATTALION EXECUTIVE STAFF

a. General

(1) The staff of the battalion comprises those officers who assist the commander in the exercise of command by advising other staff officers and individuals subordinate to the commander of the commander's plans and policies, interpreting those plans and policies, assisting such subordinates in carrying them out, determining the extent to which they are being followed, and advising the commander thereof. The commander and his staff should be considered as a single entity. However, no staff officer has any authority in his capacity as a staff officer over any subordinate unit of the command.

(2) The executive staff at the battalion level consists of the executive officer, S-1, S-2, S-3, S-4, and S-5 (when authorized). These are the principal staff assistants to the commander. The special staff consists of officers whose activities pertain to particular military specialties. The staff organization is directed, coordinated, and supervised by the executive officer.

(3) To facilitate coordination within related areas of staff functioning and to insure the systematic channeling of information and documents, executive staff officers may be assigned broad coordinating responsibilities for special staff sections within the areas of primary interest to the staff officer. This should not preclude direct access of special staff officers to the commander or direct liaison with other staff sections in matters of primary interest to those sections.

(4) For a detailed discussion of staff procedures and techniques, see FMFM 3-1, Command and Staff Action.

b. Executive Officer

(1) General.--The executive officer is the principal assistant and advisor to the commander. He is normally charged with the responsibility for the supervision of staff tasks, efficient and prompt response of the staff, and coordinated effort of its members. He transmits the commander's decision to the staff sections, and to subordinate units when applicable, in the name of the commander. The executive officer keeps abreast of the situation and future plans. During his commander's temporary absence, and when authorized, the executive officer represents him and directs actions in accordance with the commander's policies. He is the second in command of the battalion.

(2) Duties.--The executive officer's specific duties vary, depending on the desires of the commander. He performs duties in the battalion staff similar to those of the chief of staff in a general staff. (See FMFM 3-1, Command and Staff Action.)

(3) Location.--The executive officer is normally at the command post. In displacement of the command post, the executive officer usually moves with the last command post echelon.

c. S-1/Adjutant.--The S-1/adjutant has staff responsibility for personnel activities and other administrative matters not specifically assigned to another staff officer. For a detailed discussion of duties, see FMFM 3-1, Command and Staff Action. For a discussion of personnel procedures and technique, see FMFM 4-1, Combat Service Support for Marine Air-Ground Task Forces.

d. S-2, Intelligence Officer.--The S-2 has staff responsibility for producing combat intelligence and for counterintelligence matters. He is responsible for keeping the commander; the staff; and higher, adjacent and subordinate units fully informed on the enemy situation and capability, terrain and weather, and their effect on the accomplishment of the mission. As a part of his counterintelligence duties, he ensures the adequacy of internal security measures in garrison and in the field. The S-2 is also the surveillance target acquisition platoon commander. For a detailed description of duties, see FMFM 3-1, Command and Staff Action. For a discussion of techniques used by the intelligence officer, see FMFM 2-1, Intelligence.

e. S-3, Operations and Training Officer.--The S-3 has staff responsibility for matters pertaining to the organization, training, and combat operations of the battalion. Included within the S-3 section is an assistant S-3, a liaison officer, an air liaison officer who coordinates the employment of aviation units in support of the battalion, and forward air controllers normally employed with the forward air control parties. For a discussion of the duties of the S-3, assistant S-3, liaison officer, and air liaison officer, see FMFM 3-1, Command and Staff Action. For discussion of the duties of the forward air controllers, see FMFM 5-1, Marine Aviation.

f. S-4, Logistics Officer.--The S-4 has staff responsibility for logistics, budgeting, and financial management. The duties of the S-4 are similar to those prescribed for the G-4. He is responsible to the commander for the formulation of logistic policy, and for planning, coordinating, and supervising the logistic effort. The S-4 is also a logistic operator at this level. For a detailed discussion of the duties of the S-4, see FMFM 3-1, Command and Staff Action. For a discussion of logistic procedures and techniques, see FMFM 4-1, Combat Service Support for Marine Air-Ground Task Forces.

g. S-5, Civil Affairs Officer.--Depending on the tactical and civilian situations in the area of operations, higher headquarters may authorize the establishment of an S-5 within the executive staff of the battalion. When authorized, the S-5 has staff responsibility for planning, coordinating, and supervising all civil affairs activities. He is responsible to the commander for all matters involving the civilian population present in the area of operations, and seeks to reduce civilian interference with military operations. He effects liaison with local civilian leaders and with all other organizations present, to include U.S., indigenous, and third country, that are directly concerned with the civilian populace. He provides staff supervision over all attached civil affairs units and provides intelligence derived from civilian contacts to the S-2. If the S-5 is not authorized, the S-3 has staff responsibility for civil affairs. For a detailed description of duties, see FMFM 3-1, Command and Staff Action. For a discussion of techniques and procedures, see FMFM 8-6, Joint Manual for Civil Affairs, and FM 41-10, Civil Affairs Operations.

1203. BATTALION SPECIAL STAFF

a. Communication Officer.--The communication officer, in addition to commanding the communication platoon, coordinates and exercises technical supervision over the training and activities of all communication personnel in the battalion. He keeps informed of current and planned activities of the battalion. Under the staff supervision of the executive officer, he prepares plans and makes recommendations for the employment of

all battalion communications. See FMFM 3-1, Command and Staff Action, for a list of the specific duties of the communication officer. For communication principles and techniques, see FMFM 10-1, Communications.

b. Headquarters Commandant.--The headquarters commandant, the commander of headquarters and service company, performs the duties of a special staff officer, under the staff cognizance of the S-3, on matters concerned with local security and tactical movement of the headquarters. See FMFM 3-1, Command and Staff Action, for a list of the specific duties of the headquarters commandant.

c. Motor Transport Officer.--The motor transport officer performs the general duties of a special staff officer, under the staff cognizance of the S-4, with respect to motor transport matters. See FMFM 3-1, Command and Staff Action, for a listing of specific duties.

d. Medical Officer.--The medical officer performs the general duties of a special staff officer, under the cognizance of the S-4, with respect to medical and medical service matters.

e. Supply Officer.--The supply officer performs the general duties of a special staff officer, under the staff cognizance of the S-4, with respect to general supply matters. See FMFM 3-1, Command and Staff Action, for a listing of specific duties.

f. Chaplain.--The chaplain performs the general duties of a special staff officer, under the staff cognizance of the S-1, with respect to the spiritual and religious welfare of the battalion. He supervises and coordinates the religious program of the command.

g. Psychological Operations Officer.--The psychological operations officer performs the general duties of a special staff officer, under the staff cognizance of the S-3, with respect to psychological operations. See FMFM 3-1, Command and Staff Action, for a listing of specific duties.

h. Liaison Officers.--Two liaison officers are authorized in the table of organization of the battalion. The liaison officers, under the supervision of the executive officer, exchange information and promote coordination between the battalion and the units to which sent. They must be familiar with the situation and mission of the battalion, adjacent units, and the unit to which sent.

i. Commanders of Attached and Supporting Units.--Commanders of attached and supporting units and units under operational command are advisors to the battalion commander and staff on matters pertaining to the employment of their units. In addition to commanding their units, they are responsible for coordinating their activities with the proper battalion agencies and those of higher, subordinate, and adjacent units. As such, they function in the capacity of special staff officers.

1204. COMMAND AND STAFF ACTION

a. General.--The commander uses his staff in every phase of command and staff action. In tactical operations, the S-3 is the principal staff officer concerned. He is responsible for presenting staff recommendations regarding the employment of the unit. The S-1, S-4, and S-5 (when authorized) determine how the operation can best be supported as far as their respective

areas of responsibility are concerned, and they provide the S-3 with detailed information in their fields. The S-2 provides the latest intelligence.

b. Command and Staff Action.--In the ideal situation, after receiving a mission, the sequence of events leading up to the employment of a unit in a tactical operation would be that shown as the sequence of command and staff action in FMFM 3-1, Command and Staff Action. However, when time does not allow, commanders and staff officers may abbreviate or telescope the sequence of events. In any event, every effort should be made to allow subordinate commanders adequate time for their planning, movement, issuance of orders, etc.

c. Modifications of Command and Staff Actions.--In most instances, particularly fast moving operations, the sequence of command and staff action may be too time-consuming. Commanders and staff officers must be able to accomplish the necessary steps in minutes. Only commanders and staff officers who habitually make continuing estimates can hope to stay abreast of events. Decisions are based on rapid estimates. Recommendations must be sound and instantly available to the commander. Orders are oral and fragmentary. Warning orders are issued to subordinate commanders as early as possible to permit initial preparation, even if the complete battalion plan has not yet been formulated. Subordinate commanders are not usually called to the rear to receive orders but are met near their units at an observation post, or orders are issued to them over the radio by the commander or a designated staff officer. The techniques will vary in their application according to the time available, the tactical situation, and the professional ability of the staff.

Section III. COMMAND POST AND CONTROL FACILITIES

1301. COMMAND POST

a. General

(1) The battalion commander must ensure that command and control techniques and facilities are efficient and responsive to operational needs. The direction and control of battalion operations is exercised primarily through the battalion command post. Personnel normally at the command post include the battalion commander; the executive staff; necessary special staff officers; liaison personnel from attached, adjacent, and supporting units; and supporting personnel, necessary vehicles, and equipment required for operation of the command post. The internal arrangements, operation, and displacement of the command post may be prescribed in a battalion standing operating procedure (SOP).

(2) The command post is the hub of the command and control facilities of the battalion where members of the staff supervise the operation, obtain information, and make recommendations to the commander so that appropriate and timely decisions can be made. With the S-2 and S-3 collocated, an operations center is provided for the battalion. With the addition of a fire support coordination center (FSCC), the operations center achieves the necessary correlation between the tactical plan--the effect of enemy, weather, and terrain, and the fire support means available to the battalion. Constant interchange between these elements of the commander's staff is mandatory.

(3) In order for the staff to function properly, communications to subordinate, adjacent, and higher headquarters must be established and maintained. Frequently, the commander and the S-3 will be away from the command post to maintain personal contact with the maneuver elements. At such times, the operations center will continue to maintain a complete status of the operations and will inform the commander of critical information received, when appropriate.

(4) While the operations center is the central contact for the battalion, this does not dictate that all decisions and planning must be made at the command post. Sufficient communication means are available to the commander and staff to permit operation on the move and/or at two separate locations, such as during displacement.

b. Location of Command Post

(1) The command post is located to facilitate the control of the battalion. Considerations that influence its location are troop dispositions, routes of communication, communication requirements, type of tactical operations, space required, cover, concealment, and security. Entrances to towns and villages, crossroads, and other prominent terrain features which may attract enemy fire are avoided. Alternate locations are selected to which the command post may be moved if the initial site must be vacated.

(2) In the attack, the initial location is well forward to avoid early displacement and to facilitate control. In defensive situations, it is generally located near the rear of the defensive area to avoid displacement in the event of an enemy penetration. The command post may be located

near the reserve to obtain security. Local security is obtained by establishing outposts composed of headquarters and service company personnel working in the command post.

(3) The S-3 makes recommendations for the general location of the command post based on tactical considerations. The S-1, with the advice of the communication officer and the headquarters commandant, selects the exact site for the command post and prescribes the general interior.

c. Battalion Command Group

(1) During tactical operations, the battalion commander may form a command group (a subdivision of the command post) to operate forward of the command post. This group has no fixed organization but consists of personnel and equipment selected by the battalion commander for a given situation; it may include the S-2, S-3, fire support representatives, necessary liaison and communication personnel, vehicles, and command radio facilities. The command group maintains continuous communications with the command post to ensure timely exchange of essential information. By operating forward of the command post with a command group, the battalion commander may be able to more effectively influence combat operations.

(2) During operations on one axis of advance, the command and control facilities are divided. A command group normally operates near the front of the main body of the axis of movement, while the remainder of the command post moves near the center of the battalion formation. The primary control of the unit will stem directly from the command group. In situations where the battalion moves on two axes, the commander may place control facilities on both axes.

(3) During the ship-to-shore movement in amphibious operations, the battalion headquarters is normally divided into two balanced command groups: the commander's group and the executive officer's group. In the event of a mishap to the commander's group, the executive officer's group assumes control.

d. Alternate Command Posts

(1) Plans are prepared and units trained to ensure continued command and control in the event that the battalion command post is rendered inoperative through loss of the bulk of command post personnel and equipment. These plans provide for the immediate assumption of command by the senior officer present and the formation of a new battalion headquarters, including personnel and communications. Portions of these plans are included in the battalion SOP.

(2) The battalion plan for reestablishment of the command post will normally include a seniority list of officers; a list of possible staff officers in units; and provisions for using the facilities of the command group (if separate from the command post), the support elements, or the command post of one of the companies as an alternate battalion command post.

(3) A battalion headquarters may be designated as the alternate regimental command post either in the operation order or in the regimental SOP.

e. Establishment and Interior Arrangement

(1) The S-1 determines the interior arrangement of the CP in coordination with the communication officer and headquarters commandant. He recommends the space or area to be occupied by the commander and each staff section and coordinates the location of other activities. The headquarters commandant provides the working parties to establish CP installations and supervises its erection. Installations should be dispersed to ensure minimum disruption or destruction of operations by enemy attack.

(2) The message center should be located at the most secure position near an accessible entrance to the CP to ensure the physical security of its highly sensitive material, and to expedite the arrival and departure of messengers.

(3) The FSCC is located near the S-3 installation. The S-1/S-4 are located in proximity of each other. The S-2 and S-5 (when authorized) are near the S-3. When desired, the S-2 and S-3 may be collocated.

(4) Vehicles located within the CP are kept to a minimum. Dispersion, concealment, and camouflage measures are taken to prevent their detection. Consideration should be given to the establishment of a dismount point outside of the CP in order to reduce the number of vehicles within the CP.

(5) Siting of radio sets may influence both the location and internal arrangement of the CP. The use of remote control equipment will decrease the risk of detection of the CP by the enemy. When possible, radios are located for the convenience of the principal using agency; however, caution must be exercised to avoid congestion.

(6) An area for panel display is located near the CP. The area should be fairly level and open so that a display panel can be seen.

(7) A helicopter landing site is selected in the general vicinity of the CP. It must provide sufficient obstacle-free space for the safe operation of helicopters. When cleared areas are limited, the helicopter landing site may also be used for panel display.

(8) The switchboard is located where it is free from noise and interference.

f. Operation

(1) The battalion CP is organized for continuous operation. To enhance timely staff action at all times, as well as reduce fatigue of personnel, the various sections of the CP should be organized in shifts.

(2) Normally, incoming messages, except those received over tactical or functional nets, are taken to the message center. They are receipted for and given to the S-1 section for routing within the CP. Messages containing matter requiring the commander's immediate knowledge are routed to him and the action staff officer, then to other staff officers for information. Each officer who receives the message initials it and indicates action he will take or is taking. A message of lesser significance or less urgency is routed initially to the staff officer having cognizance over the subject matter. When a decision is required, he informs the battalion commander of its contents and recommends appropriate action.

(3) Outgoing messages are delivered to the message center in duplicate. The individual drafting a message ensures that proper coordination is accomplished prior to release of the message.

g. Displacement

(1) To maintain effective control of battalion units, the CP is displaced in a manner which involves the least possible interruption of its operation. When a displacement is contemplated, the S-3 recommends to the battalion commander a new general location and a time for displacement. When the decision is made to displace, the S-1 coordinates with the battalion staff as follows:

(a) With the S-2 to determine the enemy situation, anticipated weather conditions, road conditions, and trafficability.

(b) With the S-3 to determine the general location, troop disposition, tactical plans, and approximate time that the new CP is to open.

(c) With the S-4 for transportation and to determine road priority.

(d) With the communication officer concerning communication equipment required for the advance party and for coordination in selection of the exact site.

(e) With the headquarters commandant concerning physical movement of the CP, arrangements for a security detachment and guides, and movement of the advance party.

(2) A reconnaissance party consisting of the S-1, headquarters commandant, the communication officer, and other personnel may precede the advance party to select or recommend the exact location of the new CP. At the battalion level, the procedure is often expedited, if the S-1 is authorized to select the specific site. With such authorization, the reconnaissance step is eliminated.

(3) The advance party normally consists of the S-1 and his enlisted assistants, headquarters commandant, security elements, guides, and communication officer and necessary communication assistants. After the exact site is selected and internal arrangements are made, guides are posted to direct incoming personnel into their designated areas. Personnel at the old CP are notified.

(4) When the situation permits, the CP is displaced in two echelons. The commander's echelon usually consists of the battalion commander, S-2, S-3, liaison personnel, communication personnel, selected fire support representatives, and other personnel as designated. The remainder of the CP personnel continues to operate under control of the executive officer. The commander's echelon moves to the new area and prepares for operations. When the CP is established for operations and effective communications are established, the executive officer is notified. The new CP opens and the old one closes. A message is sent to higher headquarters and subordinate and adjacent units notifying them of the new CP location. The executive officer's echelon then joins the commander's echelon. A guide is left at the old CP location for a short time to direct messengers to the new CP.

(5) The operation and means of mobility available may require variation or modification to this displacement procedure. Helicopters are used for rapid displacement of the CP when possible, particularly when large areas are to be traversed and when action is fast moving. A command helicopter may be utilized for continuous control, and the displacement may be accomplished in one echelon. Similarly, a command assault amphibious vehicle may be used as a mobile CP. In this instance, other elements of the CP may be moved by vehicular means.

(6) The battalion commander and a small command group may operate from a forward location. Providing he has the means for control, the battalion commander may direct that the CP be moved in one echelon in the interest of speed and to reduce security requirements.

(7) Consideration should be given to displacing the command post at night as a passive defense measure. An orderly displacement during the hours of darkness can best be achieved if the following tasks are completed on the new site during daylight hours:

(a) A detailed reconnaissance by the S-1, communication officer, and headquarters commandant.

(b) Preparation of the site, to include erection of blackout facilities for the commander, S-2, S-3, FSCC, and the communication center.

(c) Installation of communication facilities to include a switchboard and interior wire net, selection of sites for radios, and laying wire for remote radios.

(d) Installation of white marking tape to facilitate movement in the new CP.

(e) Briefing of sufficient guides so that movement into the new site from the entrance will be rapid and orderly.

(f) Reconnaissance of the motor transport parking areas and briefing of guides so that vehicles may be parked and concealed during the hours of darkness.

(8) In an amphibious operation, the BLT headquarters may be aboard one ship or may be divided into two groups embarked on separate ships. In either case, one group accompanies the BLT commander while the other group accompanies the executive officer. Normally, as a result of the fluid situation ashore, a reconnaissance or advance party is not dispatched before the BLT command group. Due to limited security personnel, a site is usually selected that will be near the BLT reserve once it is ashore. While there is no prescribed time for landing the BLT commander's group, it normally lands behind the assault companies and preceding the landing of the first elements of the BLT reserve by a short period. As soon as the BLT command group occupies the initial command post, the BLT commander orders the executive officer's group to land and join the command post ashore. If the BLT is being landed by helicopters, the same general sequence as that of the waterborne displacement is followed. The BLT command group does not land until notified that the selected command post site is uncovered and it is reasonably safe to land. When the BLT commander is in a command and control helicopter with adequate communication equipment, he can effectively control the actions of the assault companies from the air.

h. Security

(1) Security of the CP assumes increased importance when there are wide intervals between units of the battalion, between battalions, and also in operations in a counterinsurgency environment.

(2) When feasible, the battalion CP is located in the vicinity of a reserve company to take advantage of the protection afforded by its presence. A reserve company, however, is not assigned the sole mission of protecting the battalion CP unless absolutely mandatory.

(3) The headquarters commandant is responsible for posting security detachments around the CP to protect it and to provide early warning against attack.

(4) The actual movement of the CP requires increased security measures when units are widely separated and the action is fast-moving. The threat of bypassed enemy pockets of resistance, guerrillas, and infiltrators will restrict the movement of the CP and may require additional means for its protection. It is desirable to time the displacement to coincide with the forward movement of a reserve company and to take advantage of the increased security afforded by that company.

1302. COMMUNICATIONS

a. General.--The battalion commander must have sufficient communications to provide the continuous capability to command assigned forces; to control and coordinate movement, supporting fires, and logistic support; and to collect and disseminate information. This requires that he have the means to maintain continuous communications with each of his subordinate and supporting units, with higher headquarters, and with adjacent units. For detailed information on communications, see FMFM 10-1, Communications.

(1) Responsibility for Communications.--Responsibility for communications is a function of command. Rules governing responsibility for establishment of communications are:

(a) Establishment of communications between senior and subordinate units is the responsibility of the senior. This is usually accomplished through designation by the senior commander of the radio nets, wire lines, and multichannel radio terminals which the subordinate unit must enter/terminate. The senior unit assists when necessary.

(b) The responsibility for establishment of lateral communications between adjacent units rests with the first common senior, who may either establish communications or direct one or more of the units concerned to establish communications.

(c) A unit assigned a mission in support of another unit is responsible for establishment of communications to the supported unit.

(d) Responsibility for the establishment of communications with an attached unit rests with the commander of the unit to which the attachment has been made.

(2) Types of Communications.--Communication means are classified into two types: telecommunications and physical communications. While the

term telecommunications is generally associated with rapid high-capacity electronic communication means such as wire or radio, it also includes visual and sound communications. Physical communications include mail and messenger service.

(3) Communication Organization.--The communication platoon of the headquarters and service company provides communications for the infantry battalion. The communication platoon consists of a platoon headquarters, message center, and radio, wire, and tactical air control party sections. The 81mm mortar platoon has field radio operators and wiremen in the platoon headquarters and in each mortar section. Communications for coordination of artillery and naval gunfire support are provided by the artillery battalion. The battalion communication platoon commander also serves as the battalion communication officer on the special staff. In the capacity of a special staff officer, he advises the battalion commander and staff on communication matters.

b. Telecommunication Systems

(1) Radio.--A percent symbol (%) following the below listed net title indicates additional circuits may be activated as required. In such cases, the nets are further identified by a suffix number.

(a) External Radio Nets.--The infantry battalion normally establishes stations on the following radio nets to higher headquarters. See FMFM 10-1, Communications, for a description of the purpose and composition of these nets.

1 Command net 1 (%).

2 Tactical net 1 (%).

3 Reconnaissance net (as required) (%).

4 Alert/broadcast net.

5 Air observation net (as required) (%).

6 Damage control net (as required).

7 Intelligence net (as required) (%).

8 Medical evacuation common net (as required) (%).

(b) Internal Radio Nets.--The following radio nets are normally established and controlled by the battalion headquarters:

1 Battalion Tactical Net (VHF) (%).--Provides a means to exercise command and control of the subordinate units. Stations on the net include the battalion CP, battalion commander when he is absent from the CP, rifle companies, battalion TAC-LOG group, and 81mm mortar platoon fire direction center (FDC). The Dragon missile platoon, service platoon, and attached and supporting units enter as required.

2 Battalion Mortar Net (VHF) (%).--Provides a means for requesting and controlling the fires of the 81mm mortar platoon. Stations on this net normally include the four 81mm mortar forward observers

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(FO's), 81mm mortar platoon FDC, and an 81mm mortar platoon representative located at the battalion FSCC. When operating under the control of the mortar platoon FDC, the mortar sections normally receive their fire commands over a sound powered telephone wire loop; thus allowing the radios to remain in standby. Individual mortar sections, when operating independently with rifle companies, receive fire commands direct from the FO's on this net. Such a situation may dictate the need for more than one net.

3 Rifle Company Tactical Nets (VHF) (%).--Provide rifle company commanders with a means for exercising command and control of subordinate units of their companies. Stations on the net include the rifle company commander, company executive officer, three rifle platoons, and weapons platoon. Any attached or supporting units may be directed to enter this net.

4 Rifle Platoon Tactical Nets (VHF) (%).--Provide a means for the platoon commander to exercise tactical control over subordinate units. This is a special purpose net which will be activated, when required, for the coordination of platoon activities. Stations on the net include the platoon headquarters, rifle squads, and fire teams (as required). Any attached or supporting units may be directed to enter this net.

(c) Supporting Arms Radio Nets.--The following radio nets are normally used in the battalion FSCC:

1 Artillery.--The artillery liaison officer at the infantry battalion FSCC, with personnel and equipment provided by the artillery battalion, enters the following nets:

a Artillery conduct of fire net.

b Artillery battalion fire direction net (as required).

c Artillery air spot net (as required).

d Artillery regiment fire direction net (as required).

2 Naval Gunfire Support Radio Nets.--The artillery battalion has organic shore fire control parties (SFCP's) and communication equipment for assignment to two infantry battalions. The battalion SFCP is composed of one naval gunfire spot team and one naval gunfire liaison team. These teams enter the following radio nets:

a Naval gunfire ground spot net.

b Naval gunfire air spot net.

c Shore fire control party local net.

3 Air Support Radio Nets.--The battalion air liaison officer (ALO) and the two forward air controllers (FAC's), using personnel and equipment from the TACP section of the battalion communication platoon, enter the following nets:

a Tactical Air Request (TAR) Net (%).--This is an HF voice net which provides a means for the ground combat units to request immediate air support from the direct air support center (DASC). Stations on the net include all TACP's and FSCC's within the division, air support radar teams, DASC, and other air control agencies as required. Regimental and division FSCC's monitor this net and may modify, approve, or disapprove a specific request. The DASC uses this net to brief the requesting TACP on the details of the mission. Damage assessment may be reported over this net.

b Tactical Air Direction (TAD)(%).--This UHF voice radio net provides a means through which air control agencies control support aircraft in the conduct of tactical air operations. Stations on this net include strike aircraft, appropriate TACP's, FSCC's, air support radar team (ASRT's), and air control agencies. Damage assessment is reported to the pilot over this net.

c Helicopter Request Net (%).--This HF voice radio net provides a means for requesting immediate helicopter support. This net is employed in the same manner as the tactical air request net and has the same stations. If the scope of operations permit, this net may be omitted and helicopter requests submitted over the TAR net.

d Tactical Air Control Party Local Net.--This VHF voice net provides a means for coordination between the air liaison officer and the forward air controllers.

(2) Multichannel Radio

(a) Multichannel radio is normally the primary means for provision of telephone/teletype/data/facsimile service between units. Multichannel radio equipment and operating personnel are attached to the infantry battalion from the regimental communication platoon. Services provided may include:

1 Common user telephone service.

2 Functional channels between staff sections.

3 Supporting arms channels.

4 Teletype channels.

5 Data channels.

6 Facsimile channels.

(b) The multichannel radio equipment organic to the battalion may be employed during displacement to link administrative and tactical CP's, for lateral links, or as required by the command.

(3) Wire

(a) Wire is used extensively within the command post for local telephones, for wire-multichannel radio terminals, for radio-wire integrated circuits, for teletype circuits, and for radio remote connections. Wire trunk lines are normally installed to other units in proximity to the CP.

(b) The wire section of the battalion communication platoon installs, operates, and maintains wire facilities at the CP.

(c) Radio wire integration (RWI) is a technique used to provide an interface between voice radio circuits and a switched telephone system. It permits communications between a voice radio user and a telephone subscriber on a push-to-talk basis by interconnecting the circuits with RWI equipment. RWI is especially useful when a commander, absent from his CP, needs communications with a member of his staff. Other applications include communications between radio stations separated by a distance exceeding their operating range; communications between commanders embarked in aircraft and vehicles; and senior, adjacent, and subordinate elements.

(4) Teletypewriter.--Teletypewriter communications are established between the regiment and battalion headquarters. The battalion headquarters may be tasked to provide communication guard for units collocated within the immediate vicinity of the CP. Teletypewriter equipment provides a method for high-speed transmission and reception of textual information in narrative or tabular form.

(5) Visual.--Visual communications are easily misunderstood and their utility is limited during periods of poor visibility or when prohibited by security considerations. They are highly vulnerable to interception by the enemy; or the enemy may use similar signals to deceive or confuse friendly elements. Visual signals must be coordinated with nearby friendly units, and the meanings assigned to certain visual signals must be in accord with standardized meanings prescribed by higher authority.

(6) Sound

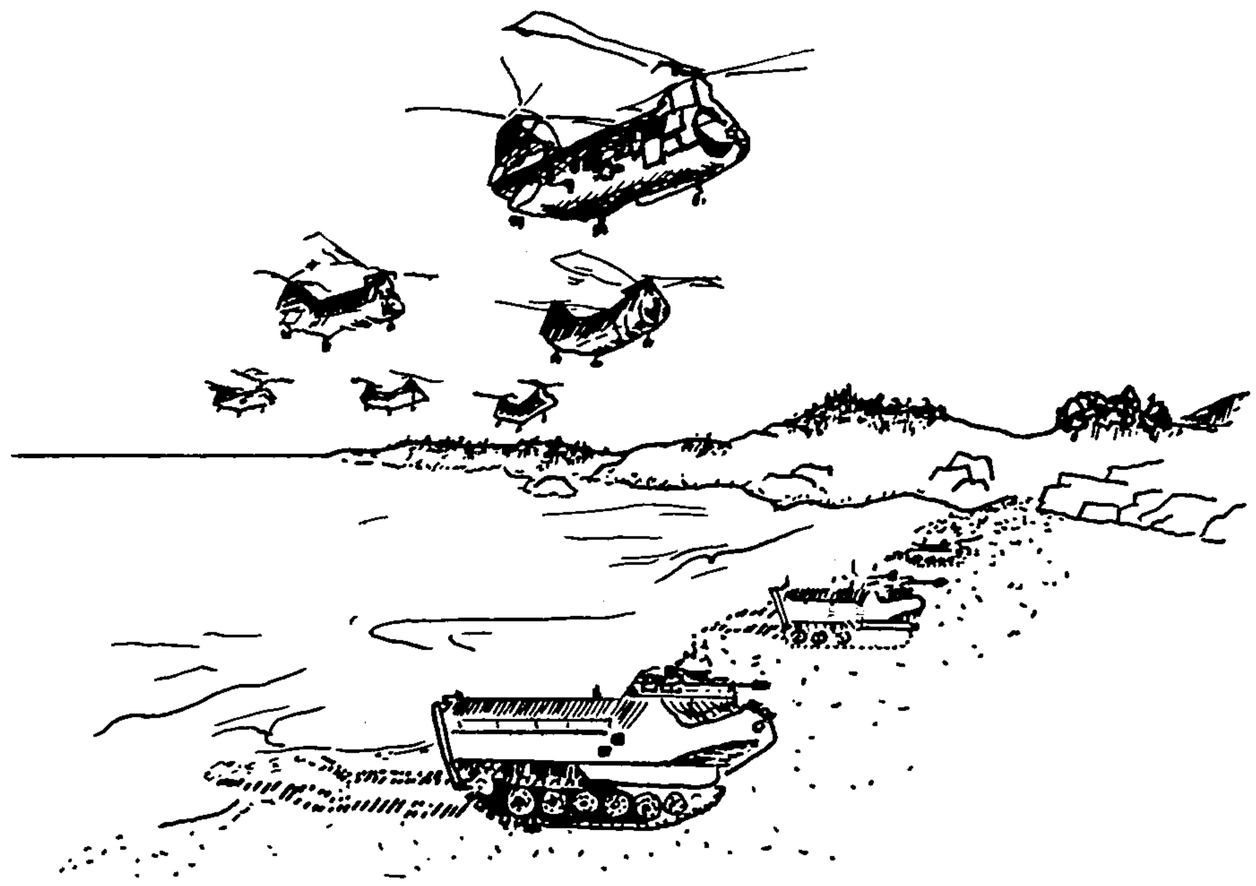
(a) Sound systems incorporate the use of loud speakers, public address sets, whistles, sirens, gongs, and similar devices for dissemination of alerts and warnings, ground and airborne psychological operations, and riot control. Their most common use is for dissemination of alert and warnings within command posts.

(b) Sound signals are satisfactory only for short distances and their effectiveness may be greatly reduced by battle noises. They must be kept brief and simple to prevent misunderstanding. Since they are vulnerable to enemy interception and deception, their use may be restricted for security reasons.

c. Physical Communication Systems

(1) Messenger service is conducted on a scheduled or nonscheduled basis as the situation dictates. In some situations, messenger service will be the primary means of communication with certain units and should be used extensively, especially for high volume traffic of a nonurgent nature.

(2) Mail service is a type of physical communication system. It should be used for all traffic of sufficiently low precedence when the use of electrical or messenger transmission is not warranted.



CHAPTER 2

AMPHIBIOUS OPERATION

Section I. INTRODUCTION

2101. GENERAL

This chapter presents the practical aspects of planning for and employing the battalion landing team in the amphibious operation. Both the helicopterborne and the surfaceborne aspects of the BLT's employment are addressed.

2102. BASIC CONCEPTS

a. The principal type of amphibious operation is an attack launched from the sea by naval and landing forces embarked in ships, craft, or helicopters involving a landing on a hostile shore. Unlike the amphibious withdrawal, demonstration, or raid, the amphibious attack is conducted for the purpose of prosecuting further combat operations, obtaining a site for an advanced naval or air base, or denying the enemy the use of an area or facilities.

b. The amphibious operation integrates sea, air, and land forces in a concerted military effort. The mobility and flexibility of this balanced force render it capable of striking with great force at a selected site or sites within the enemy's defensive system. The threat posed by the existence of an appreciable amphibious capability induces an enemy to disperse his forces and to make expensive and often wasteful efforts to defend his littoral.

c. The salient requirement in the amphibious operation is to build up combat power ashore from an initial zero to full coordinated striking power. Consequently, it is most desirable that the amphibious task force

and/or supporting forces establish and maintain naval supremacy and preponderant air superiority, and that the landing force possess a substantial combat power superiority over defending enemy ground forces.

d. The amphibious assault is undertaken in the face of additional distinguishing difficulties not normally encountered in land warfare. Natural forces--unfavorable weather, seas, surf, and hydrographic features --must be surmounted. The embarkation of troops and materiel at widely separated points, their movement to the objective, and the landing pose unique tactical and logistical problems.

e. The Marine Corps concept of the amphibious operation places primary emphasis on helicopterborne assault techniques, complemented, as required, by surface assault utilizing assault amphibious vehicles and landing craft. Helicopterborne amphibious assaults enable the landing force to achieve a rapid buildup of combat power by expeditiously landing elements with their equipment and supplies. The amphibious employment of helicopterborne units is coordinated with surface assaults for early linkup and support when the tactical situation dictates.

2103. SCOPE

The amphibious operation is a complete operation within itself. As an entity, an amphibious operation includes planning, embarkation of troops and equipment, rehearsals, movement to the objective area, final preparation of the objective, assault landing of troops and accompanying supplies and equipment, and support of the landing force until termination of the amphibious operation. An amphibious operation may include or be conducted in conjunction with airborne operations. The amphibious operation does not include marshalling of forces, preliminary training in amphibious techniques, initial preparation of the objective area, independent supporting operations, and operations subsequent to the termination of the amphibious operation.

2104. SEQUENCE OF THE AMPHIBIOUS OPERATION

The amphibious assault follows a well defined pattern. The pattern includes a sequence of events or activities which occur in amphibious assault operations and, to a lesser degree, in other types of amphibious operations. The general sequence is a succession of phases. Certain phases may overlap in time but occur in the following sequence:

a. Planning Phase.--The planning phase is the period extending from receipt of the initiating directive to embarkation. During this phase, the necessary preparatory measures, including coordinate planning, are effected. Although planning does not cease with the termination of this phase, it is useful to distinguish between the planning phase and the subsequent operational phases, since a marked change occurs in the relationship between the commanders of the various service components at the time the planning phase is terminated and the operational phases begin. During the planning phase, commander amphibious task force (CATF) coordinates planning. Any differences which commanders of the components of the amphibious task force cannot resolve are referred to their common superior. At the commencement of the operational phases, the CATE assumes full responsibility for the entire force and for the operation.

b. Embarkation Phase.--The embarkation phase is the period during which the forces, with their equipment and supplies, embark in assigned shipping. This phase commences the operational phases of the amphibious assault.

c. Rehearsal Phase.--The rehearsal phase is the period during which the prospective operation is rehearsed for the purpose of testing the adequacy of plans, the timing of detailed operations, and the combat readiness of participating forces; ensuring that all echelons are familiar with plans; and testing communications.

d. Movement Phase.--The movement phase is the period during which the components of the amphibious task force move from the points of embarkation to the objective area. This move may be via rehearsal, staging, and/or rendezvous areas. The movement phase is completed when the components of the amphibious task force arrive in their assigned positions in the objective area.

e. Assault Phase.--The assault phase is the period between the arrival of the major assault forces of the amphibious task force in the objective area and the accomplishment of the amphibious task force mission. Development of the area for its ultimate use may be initiated during this period.

2105. TERMINATION OF AMPHIBIOUS OPERATIONS

a. The termination of the amphibious operation is predicated on the accomplishment of the mission of the amphibous task force in accordance with the specific conditions contained in the governing instructions set forth in the initiating directive. The firm establishment of the landing force ashore is usually specified as one of these conditions.

b. The landing force is regarded as firmly established ashore when in the opinion of the commander landing force:

(1) The force beachhead has been secured.

(2) Sufficient tactical and supporting forces have been established ashore to ensure the continuous landing of troops and material requisite for subsequent operations.

(3) Command, communications, and supporting arms coordination facilities have been established ashore.

(4) The commander landing force has stated that he is ready to assume full responsibility for subsequent operations.

c. When the commander amphibious task force and the commander landing force are satisfied that the conditions specified in the initiating directive for terminating the amphibious assault have been met, the commander amphibious task force will report these facts to higher authority designated in the initiating directive. This authority will then terminate the amphibious operation, dissolve the amphibious task force, and provide additional instructions as required, to include command arrangements and disposition of forces to be thereupon effective.

2106. ORGANIZATION FOR COMBAT

a. General.--Marine Corps policy continues to emphasize the close integration of air and ground operations for the amphibious assault and for other air-ground task force operations. The Marine Corps has, with its organic air and ground elements, an inherent capability to form integrated air-ground task forces that may be tailored to meet any particular situation. Each Marine air-ground task force (MAGTF) consists of four major elements: a ground combat element, an aviation combat element, a combat service support element, and a separate headquarters. The Marine infantry battalion may participate in air-ground task force operations as a part of a larger ground combat element or as the basic organization forming the ground combat element. In the latter case, the air-ground task force would be a Marine amphibious unit (MAU). The MAU is capable of performing combat missions of relatively limited scope and duration.

b. Amphibious Operations.--The battalion is organized into a BLT for amphibious assaults. The BLT consists of the infantry battalion and such other combat, combat support, and combat service support units as are required for the assault landing and conduct of operations ashore.

(1) Since the BLT is task organized for a particular situation, there is no standard BLT organization. The primary consideration in organizing the BLT is the determination of support requirements for the amphibious assault. What combat support and combat service support units would be attached to the battalion depends upon a number of variable factors; e.g., the nature of the terrain, the means of mobility, the enemy situation, and the assigned mission.

(2) Operations vary from those in which the BLT operates under the close control of a higher commander to independent operations where the BLT commander is also the commander landing force.

(3) See figures 2, 3, and 4 for examples of a BLT organized for amphibious assault. See sections VII and IX for information concerning organization for embarkation and organization for landing.

c. Air-Ground Task Force Operations.--As in the case of amphibious operations, the BLT organized for the MAU is task organized for a particular

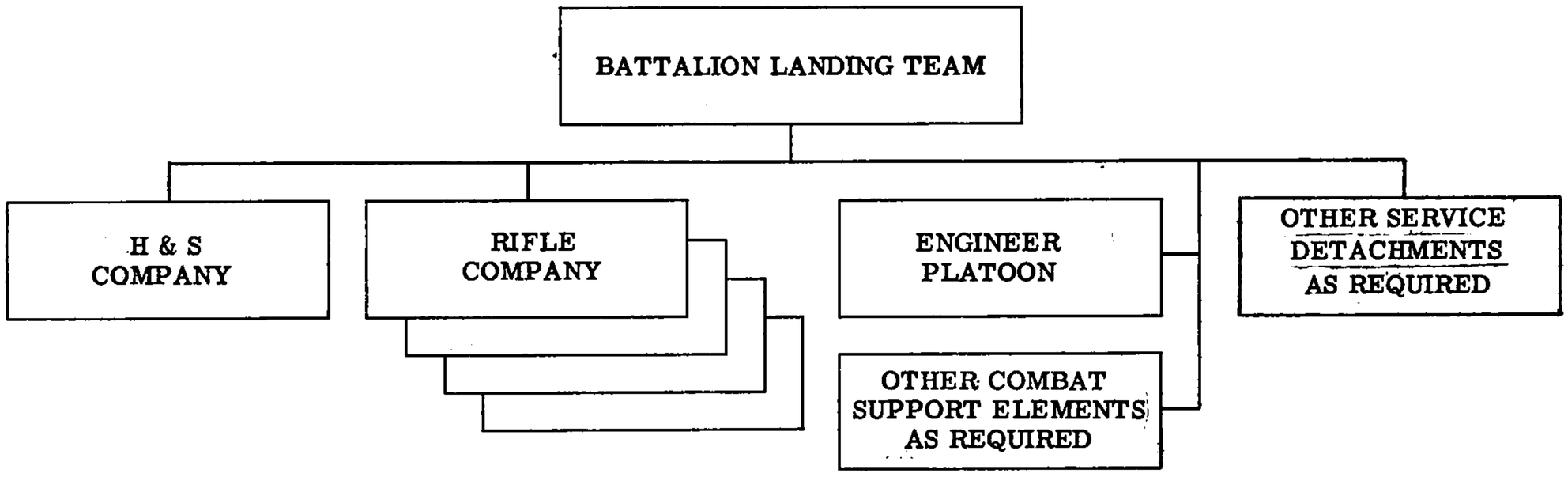
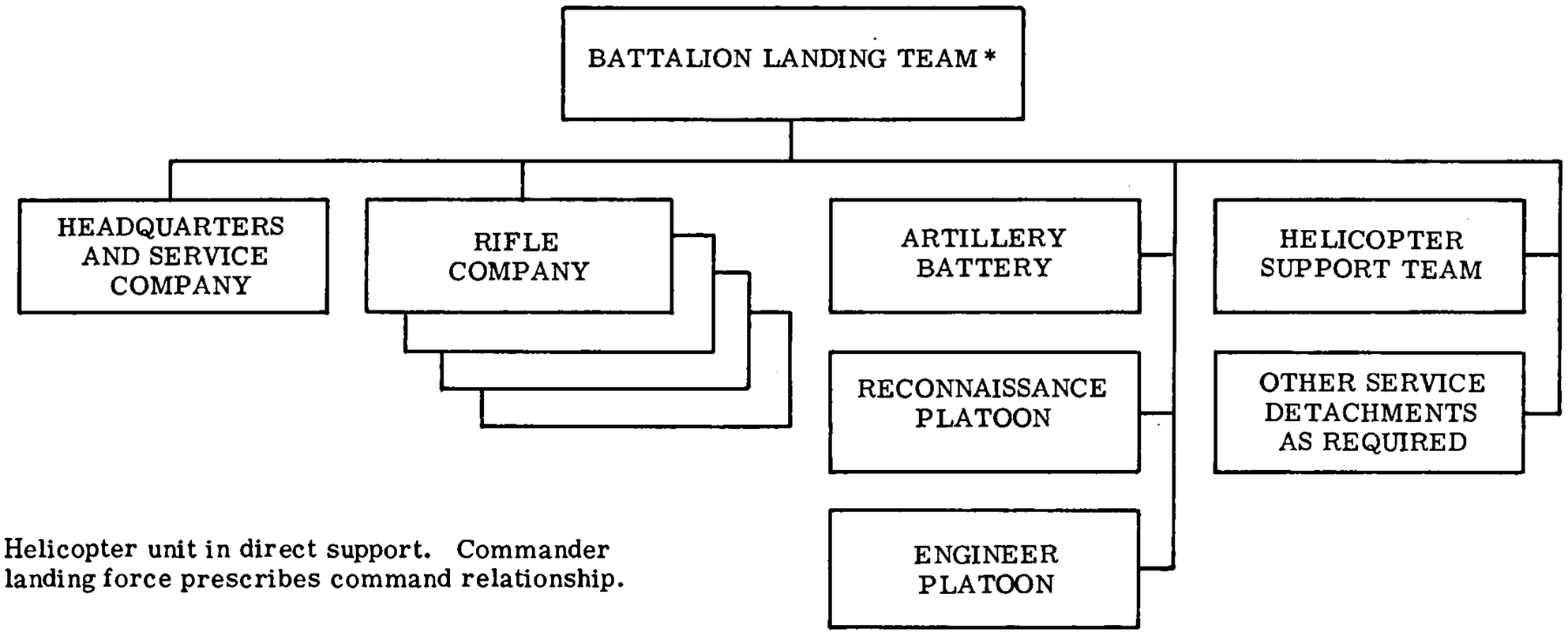


Figure 2.--Example BLT Organization in Concentrated Landing on Contiguous Beaches.



* Helicopter unit in direct support. Commander landing force prescribes command relationship.

Figure 3.--Example BLT Organization as a Helicopterborne Unit Landing as Part of a Larger Force.

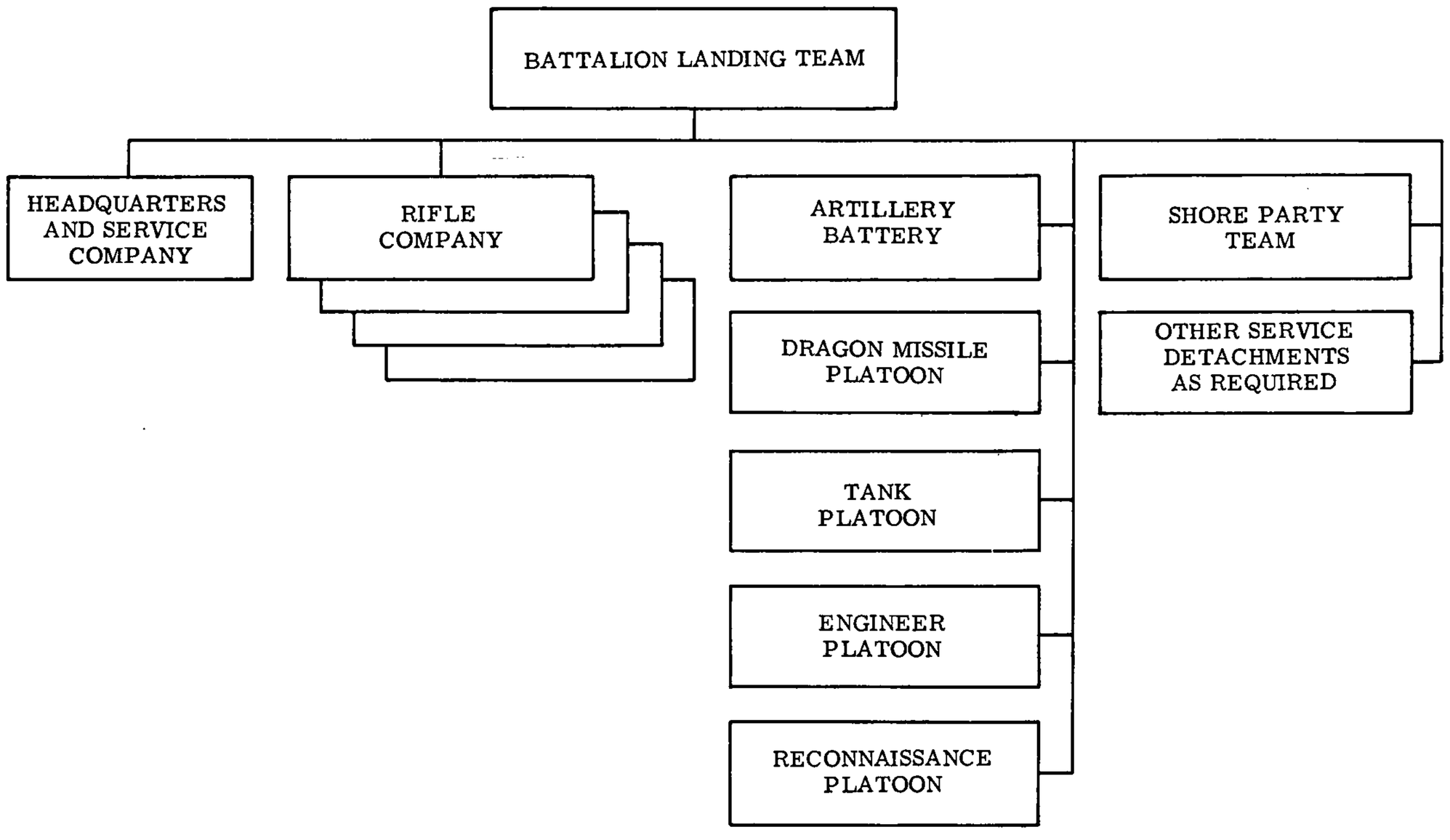


Figure 4.--Example BLT Organization in a Widely Separated Landing.

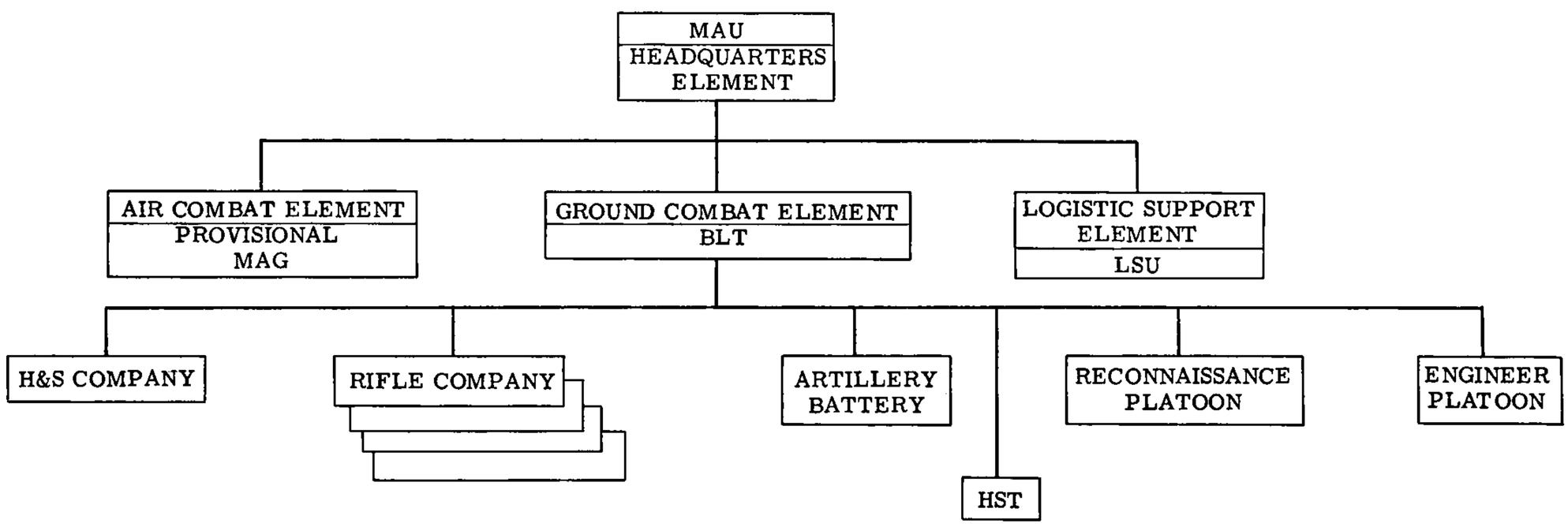


Figure 5.--Example Marine Amphibious Unit (MAU) Organization.

operation. The composition and organization would depend on the availability of transportation and the type of transportation contemplated, the mission, and the enemy situation. The aviation combat element is a provisional Marine aircraft group (MAG) normally built around an attack squadron, a helicopter squadron, and elements of an observation squadron. The attack squadron normally operates from an airfield previously established ashore. The provisional MAG does not normally contain the aviation resources to conduct active air defense of the MAU. The combat service support element of the MAU is formed primarily from division, wing, and force service support group resources. The MAU headquarters serves as the landing force headquarters and is responsible for planning and executing MAU operations. The MAU headquarters deals primarily with higher, adjacent, and supporting commands and permits the ground combat and air combat element commanders to devote their attention to their respective commands. See figure 5 for the organization of the MAU. See FMFM 0-1, Marine Air-Ground Task Force Doctrine, and FMFM 6-1, Marine Division, for other air-ground task force organizations.

Section II. PLANNING

2201. GENERAL

a. Planning for an amphibious operation differs from normal operational planning for land warfare in the manner in which it is conducted and in the degree of detail involved. The assault of a defended littoral is a special form of attack conducted to overcome a well-developed and coordinated defensive system manned by an enemy who may have had months, or even years, to plan and develop his defenses. To ensure success, the attacker must fully exploit the means available; i.e., helicopter support, supporting weapons, and combat service support. The BLT is provided the necessary troops, equipment, and support to accomplish his mission. Normally, the BLT commander is not told how or in what manner his mission is to be accomplished; however, during the planning for the amphibious operation, higher echelons may make certain decisions that are ordinarily left to the BLT commander in land combat such as formation for the attack. The BLT commander is further dependent upon higher echelons for information and intelligence during the amphibious planning phase.

b. Amphibious planning must be coordinated between naval and landing force units at all levels of command. Although planning is a continuing and cyclic process from the inception of the amphibious operation, it takes on formal shape with the preparation of the operation plan and its annexes. See FMFM 3-1, Command and Staff Action, for examples of the format and content of the operation plan/order and its annexes.

c. Planning for amphibious operations is conducted in inverse order. That is, the first step in amphibious planning is to determine what physical objectives must be taken in order to accomplish the mission. Next, a scheme of maneuver is developed that will seize these objectives. That scheme will determine the plan for landing which in turn determines the plan for debarkation. Finally, the plan for debarkation is used to determine the embarkation plan.

2202. FUNDAMENTALS OF AMPHIBIOUS PLANNING

a. General.--Amphibious planning is concurrent, parallel, and detailed. These factors are emphasized more in amphibious planning procedures than those of land warfare. The differences arise from the complex nature of the operation and a requirement for the totally integrated participation of forces from two or more Services.

b. Concurrent Planning.--Concurrent planning is conducted at all echelons of the same command and by corresponding echelons of different commands. Concurrent planning not only saves time, it also permits the early detection of problems at all echelons in order that they may be resolved quickly and allow the orderly continuation of the planning process. The BLT commander ensures that tentative decisions and plans and other information are made available to his staff and subordinate units. The BLT commander determines what reinforcements are required to accomplish the BLT mission. The requirements, along with those of the other BLT's, are coordinated, consolidated, and forwarded to the next echelon of command. It is through this planning process that the commander amphibious task force can determine

the landing force's overall needs. The nonavailability of certain requirements such as shipping space, assault amphibious vehicles, or materiel may cause modifications of the requirements or possibly changes to the concept of operations.

c. Parallel Planning.--Close and continuous coordination necessary between corresponding naval and troop echelons is termed parallel planning. The necessity for parallel planning arises from the need to coordinate two or more Services in a common effort. At the BLT level, such planning cannot begin until certain basic decisions have been announced by higher echelons. The next higher echelon commander, in conjunction with the transport unit commander, usually decides upon the time and place at which the BLT and transport commander may begin parallel planning. To expedite parallel planning, the BLT commander communicates directly with the transport commander to determine general agenda items and what key staff personnel will attend the initial planning conference. Selection of general agenda and personnel are prerequisites for a well organized conference. Circumstances permitting, all essential staff personnel should attend the initial conference. It is most advantageous for the initial planning conference to be held aboard ship or at a site in proximity to the amphibious shipping assigned the BLT. This affords an opportunity for the embarkation officer(s) and other staff members to visit assigned ships and to effect direct liaison with the ship's officers, especially the combat cargo officer. The BLT's embarkation officers and the ship's combat cargo officer(s) effect positive liaison which is continued throughout the planning and embarkation phases. Parallel planning can best be accomplished when the corresponding commanders and their respective staffs are in proximity to one another.

d. Detailed Planning.--When the commander amphibious task force determines that he can support the concept of operations ashore, detailed planning commences. The commander landing force and his subordinate commanders plan the details of their schemes of maneuver ashore, fires in support of the schemes, and movements from ship-to-shore (landing plans) which will establish forces ashore in the combat postures dictated by maneuver and fire support requirements. Completion and dissemination of finalized detailed plans prior to embarkation should be accomplished to ensure that embarkation supports the plan.

2203. PLANNING SEQUENCE

a. Preliminary planning may begin with fragmentary information, general knowledge of the overall mission, or a command forecast. Before announcing his planning guidance, the BLT commander arrives at a logical planning sequence in his own mind. Normally, the planning sequence begins with receipt of a directive or planning memoranda, which may be written or oral. This directive includes as much of the following information as is available:

(1) Tentative date and hour of landing expressed in terms of D-day and H-hour.

(2) Tentative mission and objective specified by the next senior echelon of command.

(3) Next senior commander's concept of operation.

(4) Tentative beach for landing a waterborne BLT.

(5) Tentative assignment of supporting and attached units.

(6) Tentative shipping allocation.

(7) Tentative assignment of landing means (helicopters, landing craft, and/or assault amphibious vehicles).

(8) Tentative air and naval gunfire support.

(9) Availability and employment of nuclear weapons.

(10) Alternate plans.

(11) Tentative landing zones for landing a helicopterborne BLT.

(12) Tentative landing time for helicopterborne units.

(13) Linkup requirements, if appropriate.

(14) Established deadlines for completion of planning and submission of requirements.

(15) Logistic and administrative information, such as floating dump allowances, possible equipment changes, restrictions of vehicle loads, and medical requirements (special equipment, immunization, etc.).

b. The planning sequence is not prescribed, but varies with the scope and magnitude of the operation and the desires of the BLT commander. FMFM 3-1, Command and Staff Action, reflects a typical sequence for amphibious planning. Although this sequence is followed by higher echelons, the BLT usually follows the sequence of planning in its simplest form.

2204. PLANNING AIDS

Essential planning aids are made available by higher echelons. Planning aids consist of all or part of the items listed below:

a. Maps and charts to meet the needs of both the planning staff and unit leaders in combat.

b. Aerial photographs which may be the only source of information of the objective area. Types of aerial prints include: vertical and oblique views, annotated mosaics, stereopairs, color transparencies, and motion pictures. Ground photographs are valuable for immediate impressions of characteristics of beaches, terrain, and offshore obstacles and conditions.

c. Shoreline photographs taken by submarines and shoreline sketches.

d. Area and theater studies.

e. Scale models and relief maps. Models and relief maps should be three-dimensional, gridded, and to a scale no larger than 1:25,000, with a vertical scale exaggeration between 2:1 and 5:1.

f. Reports from evaluated prisoner-of-war interrogations, resident experts on the area, underground sources, and other covert and clandestine sources.

2205. SECURITY DURING PLANNING

Security is particularly important during the planning phase, and a plan for security of planning information is placed in effect when operational planning commences. Security precautions and regulations are rigidly enforced. Such measures include as many of the following as possible:

a. Only personnel with a need to know should have access to planning information and materials. Access lists and a pass system, which includes positive identification measures, are instituted, usually by the BLT commander.

b. The designated code title for the operation is used at all times. References by name, to locales of the objective area, are avoided.

c. Communications security of all types is rigidly enforced.

d. Classified equipment required for an operation is closely guarded.

2206. EMPLOYMENT OF SUPPORTING UNITS

The type and amount of combat support and combat service support provided the battalion is based primarily on the concept of operations ashore. The required task organization for the BLT evolves by considering the proposed concept of operations ashore in light of the enemy situation, terrain, mission of the BLT, and the availability of support forces. Initially, the assignment of the reinforcements to the BLT may be directed by the next higher echelon. Often, as a result of staff estimates and detailed planning, it will be evident that additional reinforcements will be required by the BLT. Additional requirements are determined at the earliest time possible and submitted to higher echelons.

2207. BATTALION LANDING TEAM PLAN OF ATTACK

a. General.--The BLT plan of attack is a detailed plan for the early seizure of physical objectives to accomplish the BLT mission. A BLT plan of attack for an amphibious operation consists of the scheme of maneuver, plan of supporting fires, and the landing plan. These three elements of the plan of attack are interdependent and require simultaneous consideration and preparation. The plan must be capable of being supported tactically and logistically from the sea. Although expressed in detail, the plan must stress simplicity and flexibility. Prior to preparing the detailed plan of attack, the BLT commander and his staff must thoroughly reexamine and analyze the terrain, weather, and hydrographic conditions, and the enemy situation.

b. Terrain Analysis

(1) Beach Area.--An analysis is made of the general topography of the beach area and the military aspects of the terrain. Weather and hydrographic conditions are also considered in the terrain analysis. Specific considerations include:

(a) Obstacles that may impede the movement of assault amphibious vehicles en route to the landing beach such as reefs, bars, rocks, shoals, or artificial obstacles.

(b) Weather conditions with respect to short range forecasts such as temperature, humidity, precipitation, winds, visibility, and light data.

(c) Beach conditions such as width, length, gradient, and soil consistency including trafficability, texture, surf, and tidal ranges.

(d) Beach exits.

(e) Key terrain features in the beach area and inland to BLT objectives.

(f) Cover and concealment afforded the enemy and the BLT on landing.

(g) Fields of fire that may be exploited by the enemy and by the BLT upon landing.

(h) Obstacles to the advance inland.

(i) Avenues of approach into enemy positions and, conversely, approaches that may be utilized by the enemy for counterattacking.

(j) Defiladed areas in the BLT zone of action from which indirect fire may be brought to bear on the beach.

(2) Landing Zones.--Analysis of the area is made to determine suitable landing zones for the helicopterborne units. The terrain influences the selection and number of suitable landing zones and the assignment of missions to the helicopterborne force.

(a) The location of each landing zone must be determined in terms of either geographic or universal transverse mercator grid coordinates as directed.

(b) Altitude of a landing zone is determined by map inspection or by reconnaissance personnel use of an altimeter or barometer.

(c) The directional orientation of the landing zone and its immediate approaches, with respect to dominating terrain.

(d) Descriptions of prominent terrain, unusual natural or manmade formations, bodies of water, structures, or other landmarks that would tend to help in orientation of helicopter pilots and disembarking troops.

(e) All physical factors of each landing zone affecting either helicopter or ground operations will be obtained as outlined below:

1 Size.--Appropriate size is determined by the number and type of helicopters to be accommodated. Even though the landing gear of the helicopter will rest on a relatively small plot of ground, a larger area clear of obstructions is still required to provide necessary rotor clearance. In addition, the landing of a helicopter in a small or restricted area is of necessity a slow, delicate process, exposing both the aircraft and passengers to enemy observation and fire. Depending on the height of obstructions in proximity to the landing zone, individual landing

points should be separated by distances equal to two to four times the rotor diameter. The size of the landing zone should be stated in terms of physical dimensions; i.e., 40 by 200 meters.

2 Concealment--For most effective helicopterborne operations, landing zones and helicopter lanes should be shielded from enemy observation, either by masking terrain or wooded areas. If it is impossible to conceal helicopter activity with these natural terrain features, it may be necessary to place smoke between the landing zone and suspected enemy positions. See appendix A on the use of smoke.

3 Location.--Landing zones should be located as close to objectives as possible consistent with the requirements for surprise and security. Landing zones that are used primarily for supply and resupply should be located in proximity to desirable storage or dump areas to minimize movement of cargo after delivery.

4 Approaches and Exits.--It is undesirable to establish landing zones in locations that require vertical ascent or descent by helicopters operating from them. Helicopters require a large amount of reserve power to climb vertically after takeoff or to control a vertical descent; this decreases the allowable payload. To permit more effective use of helicopters, the approaches to and exits from landing zones must be clear of communication wire and all other obstacles. Since helicopters can take off and hover with less power (hence more allowable payload) when they are headed into the wind, landing zones should be selected that provide adequate space for helicopter pilots to maneuver into the wind.

5 Surface Material and Soil Trafficability.--Information should be obtained concerning surface materials and soil trafficability within the landing zones. The former should be considered in regard to possible rotor wash effect; the latter for vehicular, troop, and logistic mobility. Loose debris can cause clogging of engine intakes, temporary loss of visibility, possible bodily injury to troops, or damage to the helicopters, and it may reveal helicopter activity to the enemy.

6 Obstacles (Natural and Artificial).--Obstacles in the landing zone must be evaluated. In order to evaluate obstacles effectively, familiarity with helicopter landing and takeoff characteristics is essential. Although some obstacles may not prevent helicopter landings, they may be of great significance to disembarked troops. For example, a line of trees or powerlines in the area may prevent helicopter landings while not materially affecting troop activities. Conversely, a deep, precipitous ravine or extensive, swampy border area may not influence helicopter landings, but would constitute a barrier to ground units.

7 Topography.--Although helicopters can "touchdown hover" (a procedure whereby one or more wheels are placed on the ground but the full landing is not executed) on any gradient which provides the necessary rotor clearance on the uphill side, preselected landing sites should be as level as possible. Terrain sloping more than 14 percent (8 degrees) is usually considered too steep for helicopter landings, although a touchdown hover may be used in emergencies.

8 Cultivated Features.--Cultivated areas in use by natives of the region (type cultivation, etc.) must be noted. Vegetative cover can be a restricting factor in the landing of helicopters, particularly

in mass landings. High trees at the edge of a landing zone are restrictive. Scattered trees within a potential landing zone may be locally restrictive, but may not rule out the use of the landing zone as a whole. Brush, if over 3 feet high, is usually considered restrictive to landing helicopters because of likely damage to fuselage and tail rotors.

9 Adjacent Terrain and Exits.--Adjacent terrain and exits must be studied in light of the relief, drainage, vegetation, cultural features, communications, lanes of approach, observation, visibility, cover, and concealment. The nature and size of exits from the landing zone, both natural and artificial, existing routes of communications, and general area trafficability can then be evaluated.

10 Other Pertinent Factors.--In response to the requirements of the situation, or as directed by specific essential elements of information (EEI's), it may be necessary to obtain other information.

(3) Key Terrain.--Assault troops are extremely vulnerable to enemy fire during the ship-to-shore movement, whether waterborne or helicopterborne. Enemy positions located on key terrain features adjacent to or in the immediate vicinity of the landing beach, or zone, must be destroyed, neutralized, or seized at the earliest possible time to ensure success of the landing. A thorough terrain analysis is directed to this end. This analysis is not restricted to that of the BLT zone of action, or tactical area of responsiblity, but includes key terrain features in adjacent units' areas. The enemy's defense of key terrain features in an adjacent unit's area can adversely affect the BLT's landing. Delay in the seizure or neutralization of such features may imperil accomplishment of the BLT's mission. In such cases, the BLT commander consults with higher headquarters and coordinates with adjacent unit commanders during the planning phase to ensure resolution of the problem.

(4) Beach Selection.--For a detailed discussion of the criteria for selecting and desirable characteristics of a landing beach, see LFM 01, Doctrine for Amphibious Operations. For a more detailed discussion of landing beaches, see FMFM 2-1, Intelligence.

(5) Landing Zone Selection.--Landing zones should be located as close as possible to the objective consistent with the requirement for surprise and security. Approach and retirement lanes must be selected which avoid enemy concentrations, yet provide rapid and direct delivery of troops. The size and configuration of the landing zone is an important consideration. The initial landing of troops must be sufficient to sustain the operation by securing the landing zone and initial objectives. For a more detailed discussion of landing zone selection, see FMFM 3-3, Helicopterborne Operations.

c. Enemy Situation.--The enemy's defenses are normally organized to exploit tactical advantages afforded by the terrain. Thus, it is imperative that the enemy situation and the terrain be analyzed in concert. Until the BLT is ashore in the objective area, it is almost totally dependent upon higher echelons for intelligence and information concerning its area of operations. Analysis of this material seeks to determine:

(1) The number and composition of the enemy forces in the beach or landing zone area.

(2) Disposition of the enemy forces in the beach or landing zone area.

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(3) The type and number of supporting arms and service support elements.

(4) The number, type, and location of local reserves.

(5) The identification, strength, and location of potential enemy reinforcements.

(6) Significant strengths or weaknesses of enemy's defensive system.

(7) Routes into the beach area or landing zone which might be used by the enemy for the movement of troops and weapons.

(8) Combat efficiency of enemy forces.

(9) The existence of guerrillas, partisans, paramilitary, and unfriendly elements of the population in the area, to include strength, composition, dispositions, weapons, and relationship with the enemy military forces.

(10) Any information that the enemy has a nuclear delivery capability.

d. Scheme of Maneuver

(1) The scheme of maneuver for an amphibious operation is essentially the same as for offensive land combat. The fundamentals of land warfare apply equally in both cases. The major difference is the requirement in an amphibious operation to build up the combat power ashore from an initial zero. Therefore, when determining the scheme of maneuver, the commander must:

(a) Provide for the seizure of objectives requisite to the buildup of forces and supplies ashore.

(b) Ensure that the scheme of maneuver can be supported by naval gunfire, missiles, and tactical air support until artillery and other support means are established ashore.

(c) Provide the capability for each assault company to be initially successful without dependence on other assault units.

(d) Provide for the early seizure of key terrain commanding the landing zone or the landing beach and boat lanes. Other key terrain in the immediate area, not to be seized initially, must be neutralized by fire and its occupation denied to the enemy.

(e) Provide for the early seizure of key terrain features beyond the landing zone or inland from the beach to expedite the advance to and seizure of the assigned BLT objective. Careful consideration is given to selecting these key terrain features as BLT intermediate objectives for assignment to subordinate units. Objectives are selected whose seizure will permit the best use of fire and maneuver in the advance. Where the terrain permits, planning provides for mutual support.

(f) Provide for the timely landing of reserve elements. It is difficult to land the reserve on other than a preassigned landing

beach; therefore, it is highly desirable in the waterborne landing to gain early control of sufficient land area to land the reserve. This provides for better dispersion and space to maneuver, when commited. The preplanned employment of helicopters will increase the commander's flexibility in committing the reserve to include commitment in the helicopterborne assault.

(2) One of the distinguishing characteristics of the waterborne landing is the initial lack of depth to the attack. The imaginative employment of helicopterborne forces to seize objectives well beyond the beach compensates for the lack of depth by initially avoiding enemy strength while isolating the beach area in support of the waterborne landing. The BLT seizes sufficient area in either the waterborne or helicopterborne attack to provide for its own landing as well as that of in-trace elements of the landing force.

(3) The basic forms of maneuver are valid in the amphibious assault. The tactical employment of maneuver elements in offensive action as discussed in chapter 3, section IV, and the form of maneuver selected are the primary bases for the attack formation ashore. The attack formation governs the formation for landing subject to the constraints of the general formation for landing that may be prescribed by higher echelon.

(4) Helicopterborne forces add to the offensive maneuver capability. The commander should not permit his attack to become stereotyped. He exploits the use of the helicopter in conjunction with his ground maneuver units. He employs various combinations of maneuvers to bypass heavy enemy resistance, to seize objectives in the enemy's rear, or to attack other positions in the defensive system. Whether the BLT comprises the entire ground combat component of the landing force or is part of a larger ground component, all or part of the BLT may land in helicopterborne assault. The helicopter affords the BLT commander rapidity of maneuver, increased mobility, and great flexibility in the amphibious assault. The entire BLT with supporting artillery may be inserted by helicopter against lightly defended areas in order to gain tactical surprise and to permit the rapid buildup of combat power ashore. The BLT may also combine waterborne and helicopterborne assaults of its maneuver elements while maintaining the flexibility inherent in withholding a reserve to be landed by either means.

(5) The employment of amphibious vehicles in the waterborne assault is another consideration. They can transport a maneuver element; provide some protection against small arms, shell fragments, and nuclear effects; and move rapidly inland to a point where an assault can be launched on the flank or rear of a heavily defended position. Such a maneuver can exploit the advantages of shock and surprise. See figure 6 for a typical BLT beach, zone of action, and initial objective ashore.

e. Landing Plan.--The landing plan is the commander's plan for landing his units in appropriate formations, with the necessary equipment and supplies, over assigned beaches or in assigned landing zones, at the times required by the scheme of maneuver to initiate combat ashore. The plan must support the scheme of maneuver ashore but is subject to the concomitant consideration of the capabilities of the landing means available. The primary concerns in formulating the landing plan include:

(1) Formation required for initiation of combat ashore.

(2) Mobility of helicopterborne and waterborne forces.

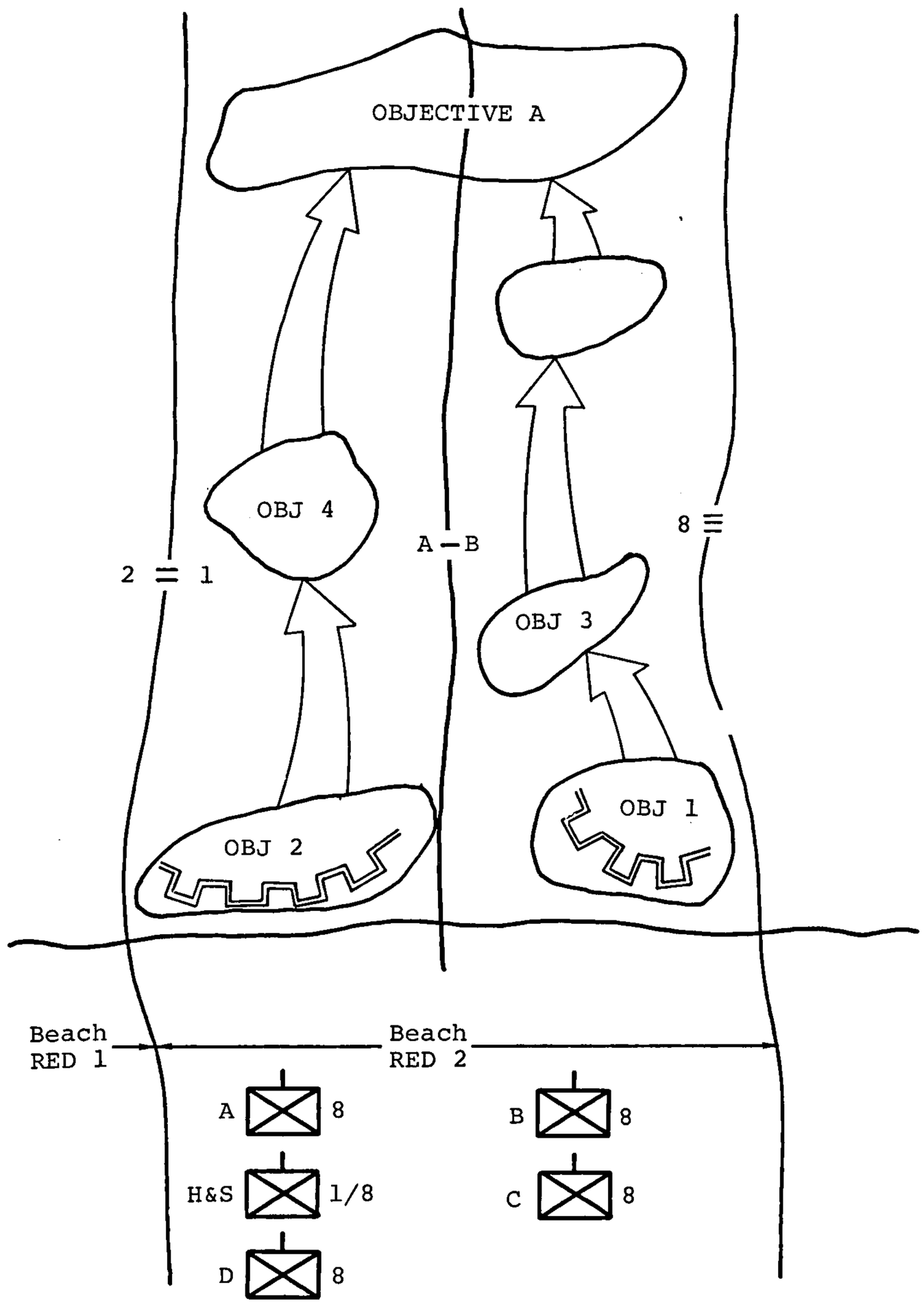

Figure 6.--Typical BLT Beach, Zone of Action, and Initial Objective.

(3) The scheme of maneuver ashore.

(4) Air and naval gunfire support of the ship-to-shore movement.

(5) Rapid buildup of combat power ashore.

(6) Flexibility in landing supporting arms and reserves.

(7) Terrain restrictions. The width of the assigned beach or the size of the helicopter landing zone may influence the plan. Narrow beaches or small landing zones may limit the choice of formations for landing. Shoreline configuration, beach terrain, and key terrain features in the vicinity of the beach or landing zone are important considerations in adopting a formation.

(8) Enemy situation. The enemy's dispositions and strength in the beach area or in the vicinity of the landing zone exert considerable influence upon the composition and timing of waves. Wave timing should take maximum advantage of the effects of supporting fires and air support while avoiding congestion of the beach or landing zone. The BLT reserve may be landed on-call to alleviate congestion.

f. Plan of Supporting Fires.--Before detailed fire support planning can commence, the supporting arms representatives must be appraised, in general terms, of the BLT commander's requirements and intentions as they relate to fire support. They must know what is required, where, and when, in order to prepare the details of how it will be accomplished. The plan of supporting fires should provide guidance in the following areas:

(1) The tentative fire support means known to be available. The BLT is supported by naval gunfire before, during, and after the initial assault landing except when landed by helicopter deep inland. The early helicopterborne landing of artillery is mandatory to compensate for the lack of naval gunfire when the BLT is landed deep inland.

(2) General targets or areas which are of particular importance and against which particular supporting arms (or organic weapons) must be prepared to deliver fires.

(3) Maneuver elements to receive priority of support during a particular phase of the operation.

(4) Exclusive or exceptional reliance upon a particular supporting weapon during a particular maneuver phase or to accomplish a particular task.

(5) Whether or not a preparation is to be fired; if so, the approximate duration of such fires, their location, and timing.

(6) Extent of planning required for the employment of nuclear fires to include effects desired and troop safety.

(7) General guidance relating to restrictions on use of fire support (restricted targets, conservation of ammunition, surprise, etc.).

(8) For organic and attached fire support units, in general terms, the time and place of landing. In addition to organic fire support means, the following types of fire support may be available:

(a) Naval gunfire.

(b) Air (fixed-wing and armed helicopters).

(c) Artillery.

(d) Tanks.

2208. BLT AS RLT RESERVE

a. The reserve of the regimental landing team (RLT) in the amphibious operation is usually one BLT. The reserve BLT is the principal means by which the RLT commander influences the course of action ashore. Commitment of the reserve BLT, when afloat, is more complex than in normal operations for the following reasons:

(1) While afloat, its commitment may be delayed pending availability of landing craft, assault amphibious vehicles, or helicopters.

(2) Landing the reserve by waterborne means may depend on the availability of a suitable landing beach near the area of intended employment.

(3) Because of the decentralized nature of initial operations ashore, difficulty may be encountered in coordinating the landing of the reserve BLT with operations ashore.

(4) The early landing of the reserve BLT over congested beaches or in the congested landing zones provides a remunerative target.

b. In the initial stages of the amphibious assault, main and supporting attacks are seldom designated by the RLT commander until the situation ashore is developed sufficiently to determine the main effort. Consequently, preserving maximum flexibility of the reserve BLT is a more stringent requirement in planning the amphibious assault than in planning an attack in land combat. The commitment of adequate, flexible reserves provides a primary means by which the RLT commander maintains the momentum of the main effort after it has been determined. The utilization of helicopters to transport the reserve BLT ashore or to conduct helicopterborne assault operations gives the RLT commander added mobility and flexibility.

c. The reserve BLT is normally assigned one or more of the following missions:

(1) Assume the mission of an attacking BLT.

(2) Employed against the enemy at any point to exploit known or suspected weakness.

(3) Protect the flanks and rear of the RLT zone of action.

(4) Maintain contact with adjacent units.

(5) Be prepared to eliminate enemy resistance that has been bypassed by the attacking elements or that has subsequently developed in their rear.

(6) Prepare counterattack plan(s) as directed.

d. The reserve BLT commander and his staff must have a thorough knowledge of the missions and plans of the assault BLT's and overall knowledge of the mission and plans of other assault BLT's of the landing force. Plans for the execution of an assigned mission must be flexible. Planning may provide for landing by either helicopter or waterborne means, or both.

Section III. INTELLIGENCE

2301. GENERAL

Basically, intelligence functions are the same in amphibious operations as they are in land combat operations. However, in amphibious operations, the characteristics of the objective area (weather, terrain, hydrography, etc.) take on additional significance yet are, at the same time, more difficult to obtain. Sources of information will not normally be as readily available; therefore, requests for information will be made through higher headquarters.

2302. SEQUENCE OF INTELLIGENCE ACTIVITIES

a. General.--Intelligence activities can be divided into three general functions: administration and training, combat intelligence, and counterintelligence. These functions have certain application to each of the five phases of an amphibious operation. The following paragraphs are a suggested outline of activities for the S-2 of the BLT. The S-2 will be prepared to conduct other intelligence activities as may be required.

b. Planning Phase

(1) Administrative and Training

(a) Determine BLT requirements for maps, charts, terrain models, and photography, and initiate action to obtain them.

(b) Coordinate with the S-3 regarding any last-minute intelligence training required by the command. Security training receives considerable emphasis at the very outset of planning. Training should include camouflage and blackout discipline.

(c) Coordinate with the S-1 and S-4 regarding instructions for the handling of captured personnel, documents, and equipment.

(d) Determine requirements for additional reconnaissance units and intelligence specialist personnel, and initiate action to obtain them.

(e) Review the battalion intelligence SOP, and make changes as required.

(f) Ensure that the S-2 section personnel and equipment are ready for embarkation.

(g) When censorship is directed by higher headquarters, coordinate with S-1 and S-3 regarding censorship instructions and training.

(h) In coordination with S-1, ensure battalion personnel possess security clearances appropriate to their duties.

(2) Combat Intelligence

(a) Gather all available information concerning the area of operations and enemy forces. The division G-2 files contain considerable

quantities of intelligence studies and estimates. Arrangements are made to obtain access to appropriate documents.

(b) Prepare and present an intelligence briefing to the commander and his staff. This briefing will normally be given orally.

(c) Prepare the initial intelligence estimate. If time permits, this estimate will normally be written. Subsequent estimates are usually prepared and given orally.

(d) Determine the intelligence requirements, prepare a collection plan, ensure that appropriate orders and requests are sent, and supervise the collection effort. Since, during the planning phase, the BLT will depend almost exclusively on higher commands for intelligence, requests should be submitted as soon as possible in order to provide the higher commands with the maximum possible lead time in answering the BLT's requirements.

(e) Record all pertinent information in journal, situation map, worksheet, and journal file.

(f) Process information and disseminate intelligence.

(g) Prepare the intelligence annex for inclusion in the operation order.

(h) Coordinate with the S-3 in determining enemy targets, and prepare a list of recommended targets for submission to higher headquarters.

(i) If the BLT is to be embarked on several ships, determine by what means intelligence and information is to be disseminated.

(3) Counterintelligence

(a) Restricted areas are established for planning. These areas are guarded, and entry is controlled by a special access list.

(b) Information is released only on a need-to-know basis. Common sense is required to determine the size and composition of the need-to-know group. They may require that appropriate steps be initiated to obtain clearances for certain members of the command.

(c) All material referring to the projected operation is given an appropriate security classification. Certain items which are particularly sensitive are marked "not to be carried forward of the battalion CP."

(d) If code symbols have been assigned for the marking of vehicles and organizational equipment, they are used to cover existing tactical markings.

(e) Compromising activities are avoided. Special inoculations or the issuance of special clothing and equipment should be postponed until after embarkation, when possible. Leave and liberty are reduced gradually, since any sudden curtailment will give rise to speculation.

(f) Prepare the counterintelligence portion of the intelligence estimate and annex.

(g) Coordinate and assign counterintelligence tasks to attached counterintelligence personnel.

(h) Formulate counterintelligence measures regarding military and civil security.

(i) Formulate plans for the seizure of counterintelligence targets and/or personalities as directed by higher headquarters.

c. Embarkation Phase

(1) Administrative and Training.--Establish S-2 office in assigned space aboard ship.

(2) Combat Intelligence.--Establish a close working relationship with the PHIBRON N-2 or ship's collateral duty intelligence officer, as appropriate.

(3) Counterintelligence

(a) Minimize the danger of observation of the movement and embarkation activities by enemy agents. This involves movement by several different routes and/or at night. All civilians working in the embarkation area should be screened. Since the BLT cannot perform all of these tasks by itself, assistance is requested from higher authority.

(b) Contact between the troops and civilians who work in the port area is avoided.

d. Rehearsal Phase

(1) Administrative and Training.--Test communications, staff procedures, and the provisions of the intelligence SOP.

(2) Combat Intelligence.--Test plans for collecting, processing, and disseminating intelligence.

(3) Counterintelligence

(a) Seal off the rehearsal area from possible civilian observation.

(b) Communications security prevails. It may be necessary to maintain radio silence, to reduce transmission power to a minimum, or to use frequencies or call signs which are different from those intended for actual operational use.

e. Movement Phase

(1) Administrative and Training

(a) Coordinate with the S-3 to conduct training in the code of conduct, in enemy interrogation techniques and how to resist them, and in survival techniques applicable to the objective area.

(b) Publish instructions on the handling, marking, and reporting of souvenirs.

(2) Combat Intelligence

(a) Process and disseminate intelligence as obtained.

(b) Revise the collection plan as required.

(c) Maintain a continuing intelligence estimate.

(3) Counterintelligence

(a) Recommend appropriate time for the release of information to embarked troops regarding D-day and H-hour, designated landing beaches and helicopter landing zones, and the selected objectives and force beachhead.

(b) Impose censorship when directed.

f. Assault Phase

(1) Administrative and Training

(a) Maintain close liaison with the S-1 and S-4 regarding collection points for prisoners of war and captured material.

(b) Establish the S-2 section ashore in proximity to the S-3. Normally, they will share the same working space.

(2) Combat Intelligence

(a) Revise the collection plan as required to ensure that all intelligence requirements are satisfied and all collection agencies are used in the most effective manner.

(b) Coordinate with the S-3 regarding the employment of patrols, observation posts (OP's), and listening posts.

(c) Ensure that captured personnel, documents, and material are examined in accordance with instruction.

(d) Disseminate urgent information and intelligence by the fastest possible means to those units or staff sections that require it.

(e) Process information and issue special intelligence reports and summaries as required.

(f) Prepare the intelligence portions of the unit report.

(g) Maintain a continuing intelligence estimate.

(3) Counterintelligence

(a) Local authorities and persons known to be friendly to our cause are contacted to collect all available counterintelligence information, and to commence screening local inhabitants.

(b) Security against sabotage is established for all military installations, and for those civilian installations that we want kept in operation.

(c) If counterintelligence personnel are attached to the BLT, counterintelligence interrogations are conducted in appropriate areas away from the command post and other tactically important installations. If circumstances direct the establishment of a prisoner-of-war stockade, both prisoner-of-war and counterintelligence interrogations should be accomplished thereat. If the BLT has no capability for interrogation or translation, the movement of all captured personnel, documents, and material to higher headquarters is expedited.

(d) Civilian control measures such as checkpoints, identification cards, and curfew are established in coordination with the S-5.

(e) Contraband materials, such as arms, explosives, communication equipment, food, medical supplies, or other items which have not been surrendered in accordance with proclamations, must be located and recovered.

(f) Compliance with camouflage and blackout regulations is enforced.

(g) Effective signs and countersigns are published.

(h) Security checks of all areas vacated by our troops are conducted, particularly command posts, to determine if any compromising material has been inadvertently left behind.

(i) In coordination with the S-3, counterreconnaissance measures are established.

(j) Counterintelligence targets are seized, exploited, and protected.

Section IV. FIRE SUPPORT PLANNING FOR THE AMPHIBIOUS OPERATION

2401. GENERAL

a. Purpose.--This section discusses fire support and its planning and coordination for the assault phase of the amphibious operation. For detailed discussion of fire support planning and fire support coordination see chapter 3, section IX; and FMFM 5-1, Marine Aviation; FMFM 7-1, Fire Support Coordination; FMFM 7-2, Naval Gunfire Support; FMFM 7-4, Field Artillery Support; and NWP 22-2, Supporting Arms in Amphibious Operations.

b. Amphibious Factors.--The principles of fire support planning and its coordination are the same for the amphibious operation as they are for land combat. However, there are planning factors peculiar to the amphibious operation. They are:

(1) Planning is normally conducted a vast distance from the objective area.

(2) Planning is based almost entirely on intelligence prepared from external sources.

(3) Unlike land warfare, there is no contact or on-the-ground observation of the enemy.

(4) Fire support in the ship-to-shore movement and the initial assault phase is primarily from external sources.

(5) Fire support consists of three phases: pre-D-day, D-day, and post-D-day.

(6) Until the BLT establishes its own fire support coordination center ashore, coordination is conducted afloat by the supporting arms coordination center (SACC).

(7) A detailed and well integrated naval gunfire support plan is prepared for the ship-to-shore movement and the initial assault.

(8) Artillery is not normally able to support the initial assault.

(9) Communication means to assist in the controlling and the coordination of support fires are limited during the initial phase of the assault. Particular emphasis must be placed on communication planning if control of fire support is to be maintained.

2402. FIRE SUPPORT PLANNING

a. General.--Fire support planning is intended to produce integrated fire support plans which employ all available supporting arms with maximum effectiveness in support of the plan of attack.

b. Fire Support Planning Process.--The fire support planning process is a coordinated effort. The steps in this process are:

(1) Acquisition of targets.

(2) Analysis of targets.

(3) Recommendations for supporting arms to attack targets--includes areas for prelanding neutralization.

(4) Determination of requirments for supporting arms to support combat operations ashore.

(5) Preparation of coordinating instructions for the employment of attached supporting arms to accomplish (4) above.

(6) Preparation of coordinating instructions required to coordinate and control the fires of other supporting arms.

c. Amphibious Considerations.--Air, artillery, and naval gunfire, to some degree, have overlapping capabilities. However, each is necessary during an amphibious assault since each has unique capabilities not duplicated by the others. Each may have the technical or theoretical capability to attack the same target but may not be operationally capable of doing so at the same time or when required. Limitations may be imposed by weather terrain, hydrography, visibility, trajectory, range, communications, ordnance, or conflicting operational requirements. The determination of the requirements for each supporting arm must be based upon the unique operational capability possessed by that supporting arm.

(1) Fire support planning is conducted concurrently with planning the scheme of maneuver and the plan for landing.

(2) Normally, the BLT will receive a list of targets early in the planning phase. From this list, the BLT and assault company commanders will nominate targets for inclusion on the amphibious task force target list. The inclusion of a target on the amphibious task force target list implies responsibility for its attack and destruction.

(3) Regardless of whether or not a target appears on the amphibious task force target list, target selection is the prerogative of the commander being supported. This is provided for through the D-day allocation of fire support means to the assault BLT. Although the plans to support D-day requirements are prepared by the amphibious task force, these plans reflect the detailed requirements of the assault RLT's and BLT's. The requirements may be stated in detail and include, as appropriate, specific targets or areas to be attacked, ammunition to be expended or result desired, and schedules for delivery. The BLT commander must, therefore, review the list of targets and the terrain as they affect the plan for landing and the scheme of maneuver. The D-day fire support requirements may include targets or terrain not included on the target list. As a minimum, fires must be planned on known and suspected enemy positions which interfere with the assault landing and seizure of initial objectives.

(4) Early in planning, the fire support requirements of the assault BLT's must be submitted to the parent RLT. These requirements may be submitted separately and cover the two aspects previously discussed: targets recommended for inclusion on the target list, and detailed D-day requirements. The parent RLT reviews these requirements, consolidates, and submits to higher headquarters.

d. Fire Support Means.--Supporting fires are delivered primarily by external sources which include air and naval gunfire. Tanks, artillery, and organic supporting weapons are available when landed.

(1) Air.--Armed aircraft, including helicopters, are available to support the BLT. Air requirements are stated as tasks to be performed rather than as numbers of aircraft. The tasks should include the following information, as appropriate, in order to permit detailed aviation planning:

(a) For the attack of targets, a description of the target and the desired effect.

(b) Close air support other than the attack of specific targets:

1 The purpose; i.e., beach neutralization, landing zone preparation, helicopter escort, attack of targets of opportunity, etc.

2 The type of target(s) likely to be attacked.

3 Whether on-call or on-station.

4 The duration of the task.

(2) Naval Gunfire.--An assault BLT normally requires, as a minimum, a destroyer in direct support. The situation may require reinforcing fires of heavier caliber or longer range, normally available through the regimental landing team (RLT).

(3) Tanks.--Tank units may be included in a task organized BLT and land with it in the assault waves. They provide the assault infantry units with direct fire support against enemy armor and emplacements, materially assisting in the rapid movement inland. Tank units may be task organized with mechanized infantry to form an additional maneuver element.

(4) Artillery.--Artillery normally provides an artillery battalion in direct support of an RLT. Therefore, at least one battery of artillery will be positioned to provide support to each infantry battalion. The mission of direct support requires the direct support battery to provide a forward observer to each rifle company and liaison personnel to its supported infantry battalion headquarters. Artillery units are not normally landed until position areas are relatively free of small arms and mortar fire. For a discussion of missions, see paragraph 3808.

e. Planning Sequence

(1) Plans for fire support are developed concurrently with the scheme of maneuver. Fire plans are developed to support the maneuver by destruction or neutralization of hostile forces capable of interfering with the assault landing. When nuclear fires are to be employed, the scheme of maneuver is planned to exploit them.

(2) During the preparation of estimates, the S-3 considers all available support, in order to arrive at the best course of action. He consults with representatives of the various supporting units for recommendations concerning the best method of supporting each course of action.

(3) When the BLT commander announces his concept of operations, he also states his concept of employing the fire support means available. His concept of operations provides the basis for completion of plans for fire support by the staff.

f. Fire Support Plan.--The fire support plan is a presentation of the BLT commander's decisions and requirements for the employment of fire support.

(1) The fire support appendix will be used to portray the fire plans of air, artillery, and naval gunfire.

(2) In the preparation of the fire support appendix, it is necessary to make a distinction between that information which is properly directive in nature and that which is informative. See FMFM 7-1, Fire Support Coordination, for a discussion of the fire support appendix.

(3) Each supporting arms representative prepares his own plans, but in close coordination with the other supporting arms representatives. Should additional fire support be required to support the scheme of maneuver, the BLT commander is advised so that he may request additional support. The completed fire support plan is submitted to the RLT commander for approval at that echelon. Fire support plans are submitted up the landing force chain of command, approved and consolidated at each echelon, and then submitted to the CATF for final approval.

g. Fire Support for Helicopterborne Forces

(1) Fire Support Availability

(a) An amphibious operation in which helicopterborne forces land beyond range of naval gunfire must rely on air support to a great extent. Naval gunfire can assist in the neutralization of the helicopter approach and retirement lanes to the extent of its effective range. Artillery support will normally be provided by weapons which are helicopter transportable. Air support provides protection during flight, neutralization of landing zones, initial close support fires, most of the counterbattery support, and deep harassing and interdiction fires.

(b) As 105mm or 155mm artillery arrives in the landing zone, it is placed in battery as rapidly as possible. As this artillery becomes available, along with artillery landed by waterborne craft, the helicopterborne forces may be supported by all three supporting arms throughout the operation.

(c) The BLT commander ensures that organic and attached fire support elements arrive early in the assault. He also ensures that the control agencies for external fire support land in early waves to control their respective fires.

(2) Planning Considerations

(a) The speed with which helicopters can maneuver in response to executing primary and alternate plans necessitates detailed coordination of the helicopter movement with supporting fires. Fire support coordination and planning problems are proportionate to the number of landing zones and approach and retirement lanes. The requirements for shifting supporting fires and coordinating them with maneuver is held within reasonable limits.

(b) Helicopters and accompanying air support will normally operate at minimum altitudes. Therefore, careful consideration is

given to selection of targets, firing positions for artillery, and fire support areas for naval gunfire ships. This will minimize interference of supporting fires with aircraft movement in or adjacent to approach and retirement lanes. When aircraft are actually attacking surface targets, airspace coordination areas may be required.

(c) If an area surface-to-air-missile (SAM) threat exists, consideration must be given to special fire support measures that will provide some defense against the threat, such as delivery of smoke and/or illumination to interfere with the SAM guidance systems. In addition, suppressive fires should be planned on all likely SAM firing sites.

2403. ORGANIC WEAPONS SUPPORT

a. General.--Fires for support of the BLT in the amphibious operation include those delivered by organic means and fires made available through attachment of combat support units and from external sources. During the planning phase, the BLT commander determines what organic support weapons will be kept under BLT control and those that will be decentralized. Considerations which lead to this decision include the scheme of maneuver planned and the needs of assault elements for certain weapons. Fire support units organic to the BLT are the 81mm mortar platoon and the Dragon missile platoon.

b. 81mm Mortar Platoon

(1) The platoon is composed of four sections of two squads each; a total of eight mortars. Normally, the 81mm mortar platoon is kept under BLT control. However, a forward observer is assigned to each rifle company. Reconnaissance for positions are made by an advance element of the mortar platoon. Although the BLT commander exercises close supervision of the mortar platoon, recommendations for its employment should be sought from the platoon commander and the fire support coordinator. Mortars are the BLT commander's organic weapons for use on targets of opportunity. They are not landed too early and subjected to needless risk. When landed, they can be moved quickly into firing position.

(2) Since there may be a considerable demand for 81mm mortar fire during the early stages of the landing and until direct support artillery weapons are ashore and operative, a considerable amount of ammunition is needed. This problem requires consideration of the following factors:

(a) The utilization of an assault amphibious vehicle loaded with 81mm mortar ammunition and placed in the floating dump. When conditions permit, this method allows for the ammunition to be unloaded in the vicinity of the mortar positions.

(b) The utilization of a landing craft loaded with 81mm mortar ammunition and placed in the floating dump. This method is satisfactory if the gun positions are located near the unloading point on the beach.

(c) The early landing of transportation to provide for the movement of ammunition, when early displacement inland is contemplated. The mechanical mule (M-274) is an excellent vehicle for this purpose.

(d) Augmentation of the organic complement of the platoon by the addition of ammunition carriers.

(3) The 81mm mortar is employed primarily on targets of opportunity; however, a prearranged target list should be prepared. Such targets can be fired upon when not firing on-call fires.

(4) The mortar platoon of the reserve BLT may be required to augment the fires of the assault BLT's. This may be accomplished either by attaching the platoon to the assault BLT or providing supporting fires.

c. Dragon Missile Platoon

(1) The platoon is composed of four sections of four squads each; a total of 32 teams armed with the Dragon weapon system. The platoon is the primary organic antitank means available to the BLT. Its organization is designed for employment either as a platoon under centralized control or by attachment to a rifle company or a combination of both.

(2) The decision to employ the platoon under centralized control, or attach sections to rifle companies, is affected by the following considerations:

(a) Utilizing the knowledge of the platoon commander and his ability to control his platoon.

(b) Width of the zone of action and the avenues of approach suitable for an enemy mechanized attack.

(c) Need of rapid employment of Dragons by assault companies.

(d) The possible requirement to shift all or a major portion of the Dragons to a threatened area.

(e) Ensuring that Dragons cover areas of greatest concern to the BLT commander.

(f) The possible use of Dragons against secondary targets.

(3) The platoon may be detached from the BLT for employment with another BLT which may be confronted with a greater mechanized threat. For a discussion of the employment of the Dragon missile system, see appendix B.

2404. TANK BATTALION

a. General.--The tank battalion consists of four tank companies, an antitank company, and a headquarters and service company. Each tank company consists of three platoons of five tanks per platoon. In addition, each of the tank company headquarters has a section of two tanks. The antitank company is composed of three platoons of three sections each. Each antitank section has four squads of two M220 (TOW) heavy antitank weapons mounted on M151A1 wheeled vehicles. The manner in which the tank battalion will support the BLT will be determined by higher authority. The S-3, assisted by the tank and/or antitank unit commanders or leaders, recommends the employment of tanks and antitank weapons. Consideration for tank/antitank support requirements are:

(1) The mission of the unit, to include the current mission and the anticipated or planned missions subsequent to landing.

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(2) The enemy situation, to include enemy armored capability, types of enemy defenses, degree of resistance anticipated, and probable avenues of approach for enemy armor.

(3) The terrain, to include hydrography, beach approaches, beach conditions, and the trafficability of the terrain inland.

(4) The number of available tanks and TOW's.

(5) The scheme of maneuver, to include the probable time of landing the tanks.

b. Support.--For tanks to accomplish timely and effective support of infantry in the beach area, the liaison, reconnaissance, and breaching teams must perform their tasks quickly and thoroughly. Landing points which support the scheme of maneuver must be selected and lanes through mined areas must be cleared and properly marked. The location of lanes, tank targets, and any other pertinent information is promptly transmitted to the tank unit commander during the ship-to-shore movement of the tanks. As the tanks emerge from their lighterage, they are met by guides and directed through the cleared lanes to points from which they may commence support of the attack. Tanks may assault through the area of egress from the beach, isolating the enemy's beach defenses and establishing blocking positions covering the infantry from counterattack; also, they may assist as follows:

(1) Gun tanks can support the infantry with their machineguns and main battery.

(2) Fire on prearranged targets.

2405. NAVAL GUNFIRE

a. General.--Naval gunfire support plays a vital role in reducing the enemy defensive capabilities by destroying enemy personnel and installations prior to D-day, in protecting and covering the assault on D-day, and in supporting the landing force operations ashore after D-day. Due to the initial absence of shore based artillery, it is one of the major fire support means available to the BLT commander. The mission of naval gunfire support, in conjunction with other arms, is to assist in the capture of the objective by:

(1) Destroying or neutralizing shore installations that oppose the approach of ships and aircraft.

(2) Destroying or neutralizing defenses that oppose the landing.

(3) Destroying or neutralizing defenses that oppose the advance of troops.

b. Gunfire Support Ships.--A general knowledge of ships' characteristics to include size, draft, total armament, magazine capacities, and fire control systems is necessary for planning for naval gunfire. Ships suitable for gunfire support include battleships with 16-inch guns (when activated), cruisers with 8-inch guns (when activated), cruisers with 6-inch guns, and destroyers with 5-inch guns. Destroyers (DD) are assigned support missions, usually in direct support of BLT size units. Older classes of 5-inch destroyers are equipped with 5-inch/38 caliber guns and the newer classes have 5-inch/54 caliber weapons.

c. Organization for Combat

(1) Naval.--The fire support group, which is a naval organization, provides gunfire support to the landing forces. It is usually subdivided into fire support units and/or elements for efficient and effective delivery of gunfire support. The ships in any particular unit will vary and depend largely on tasks to be assigned. When the number of ships permits, each BLT is assigned a direct support ship, normally a destroyer. General support missions are assigned to ships' supporting units of RLT size or larger. Closely related to the assignment of gunfire support missions is the assignment of sea areas in which ships are to operate. These are called fire support areas (FSA's).

(2) Troop Organization.--Two shore fire control parties (SFCP's) are available from each artillery battalion. The SFCP is a specially trained unit for control of naval gunfire in support of troops ashore, consisting of a spotting team to adjust fire and a naval gunfire liaison team to perform liaison functions for the supported battalion commander. The SFCP is headed by a Navy lieutenant. The Navy lieutenant heads the liaison team, while the spot team is commanded by a Marine lieutenant. Each team consists of six enlisted Marines. The spot team observes and adjusts naval gunfire and normally operates from a BLT OP or from one of the company OP's. The naval officer, a specialist in naval gunfire, makes recommendations for naval gunfire employment and prepares naval gunfire plans under the staff supervision of the fire support coordinator and the S-3. In combat, the liaison team usually remains in the BLT CP. However, this team is trained to observe and adjust fires and is so utilized when required.

d. Operational Phases.--Naval gunfire support may be divided into three operational phases: pre-D-day, D-day, and post D-day. The requirements for naval gunfire support for all are considered when preparing the naval gunfire support plan.

(1) Pre-D-Day.--The objective of pre-D-day operations, when conducted, is to prepare the landing area for the amphibious assault or to support such diversionary operations as may be required. The pre-D-day phase is undertaken only when requirements for destruction of installations in the landing area are so overriding as to outweigh the loss of surprise which results from pre-D-day operations. The decision to conduct such operations is made at the highest level concerned with execution of the amphibious operation. Pre-D-day operations are primarily concerned with such targets as vital enemy defenses and installations which will adversely affect the assault and with destruction and interdiction of enemy routes of communication. These targets are requirements set forth by the amphibious task force and the landing force. A part of these requirements is generated by the BLT.

(2) D-Day.--The fires of the fire support group on D-day are the most important fires of the three operational phases of naval gunfire support. In addition, they are the most difficult to execute. Fires delivered by fire support ships on D-day include:

(a) Maximum destruction fires, consistent with time available prior to H-hour.

(b) Landing beach and zone preparations. Intense neutralization fires on enemy defenses commence at about the time the first

waterborne assault wave crosses the line of departure (LOD) or helicopterborne wave reaches the rendezvous point. They continue until the first waterborne assault troops reach the limit of safety or just prior to landing of the helicopterborne troops.

(c) Prearranged close supporting fires, which commence when the assault troops reach the limit of safety. They are then scheduled to precede the advance of troops. These fires are for the protection of assault troops during the initial landing and deployment.

(d) Prearranged deep supporting fires, which are those inland from the landing beaches, on known and suspected installations. These targets are assigned a target number and a specified amount of ammunition.

(e) On-call fires in direct support of troop operations.

(f) Fire to isolate the landing area and defend against enemy counterattack.

(3) Post-D-Day.--Post-D-day fires are coordinated with those of artillery and close air support. These fires are placed primarily on targets of opportunity requested by the BLT. As troops advance beyond the range of naval guns, fire support ships fire on targets on the flank of the beach and on targets of opportunity along the coastline.

e. Naval Gunfire Planning at the BLT Level

(1) Naval gunfire planning commences with the initiation of planning by the BLT. Normally, only the naval gunfire liaison officer and one or two enlisted assistants are required in the early phase of planning.

(2) A naval gunfire estimate may be prepared to assist the commander in arriving at a decision.

(3) The concept of operations (which includes the plan of supporting fires) is the basis for detailed naval gunfire planning. This involves the determination of pre-D-day, D-day, and post-D-day requirements.

(a) Pre-D-Day Requirements.--The BLT is only indirectly involved in the determination of pre-D-day requirements and the preparation of pre-D-day naval gunfire support plans. This involvement consists of recommending targets for inclusion on the amphibious task force target list and, when appropriate, a recommendation as to the means to be employed; i.e., naval gunfire.

(b) D-Day Requirements.--Normally, D-day requirements consist of preplanned fires necessary to accomplish final preparation of the landing area, prior to and during the assault landing, and the assignment of naval gunfire support ships to provide continuing support as operations progress ashore.

(c) Post-D-Day Requirements.--Normally, post-D-day requirements consist of anticipated requirements for the assignment of naval gunfire support ships to provide continuing support for operations ashore.

(4) BLT naval gunfire support requirements are embodied in the amphibious task force fire support appendix. A BLT naval gunfire support

plan, if prepared, consists of an extraction of applicable portions of that appendix, D-day and post-D-day.

(5) The BLT naval gunfire liaison officer may assist in the detailed preparation of the amphibious task force naval gunfire plan.

f. Liaison.--The naval gunfire liaison officer is a working member of the BLT FSCC. By monitoring the BLT naval gunfire ground spot net and the naval gunfire air spot net, he can cancel missions when they conflict with the fire missions of another supporting arm, endanger troops, or when directed by the BLT commander. Silence by the naval gunfire liaison officer (NGLO) indicates consent. In addition to coordination of naval gunfire by the FSCC, the fires of the direct support ship and general support ships are coordinated by assigning a zone of fire. The zone of fire of the direct support ship corresponds to the zone of action of the BLT supported. (See fig. 7.) For detailed information of naval support, see NWIP 22-2, Supporting Arms in Amphibious Operations, and FMFM 7-2, Naval Gunfire Support.

g. Checklist of Naval Gunfire Considerations.--The checklist given below will assist the BLT commander and the naval gunfire liaison officer in preparing naval gunfire requirements.

(1) Initiation of Planning

(a) Request the SFCP personnel for planning.

(b) Provide adequate intelligence of the landing area to assist the naval gunfire liaison officer in selecting and preparing a list of targets to be forwarded for inclusion in the target list.

(c) Obtain naval gunfire characteristics of direct support ship assigned.

(2) Pre-D-Day

(a) Ensure that the plan for pre-D-day bombardment includes targets in the BLT zone of action or tactical area of responsibility.

(b) Ensure that there is provision for destruction of all fortified installations which can interfere with the BLT landing on D-day.

(c) Ensure that the priority for fires on target is in agreement with the BLT tactical plan.

(d) Ensure that targets assigned for naval gunfire destruction are susceptible to attack.

(3) D-Day

(a) Ensure that targets within the BLT zone of action are selected for pre-H-hour destruction.

(b) Ensure that the timing of prearranged close support fires prior to H-hour provide continued neutralization during the ship-to-shore movement.

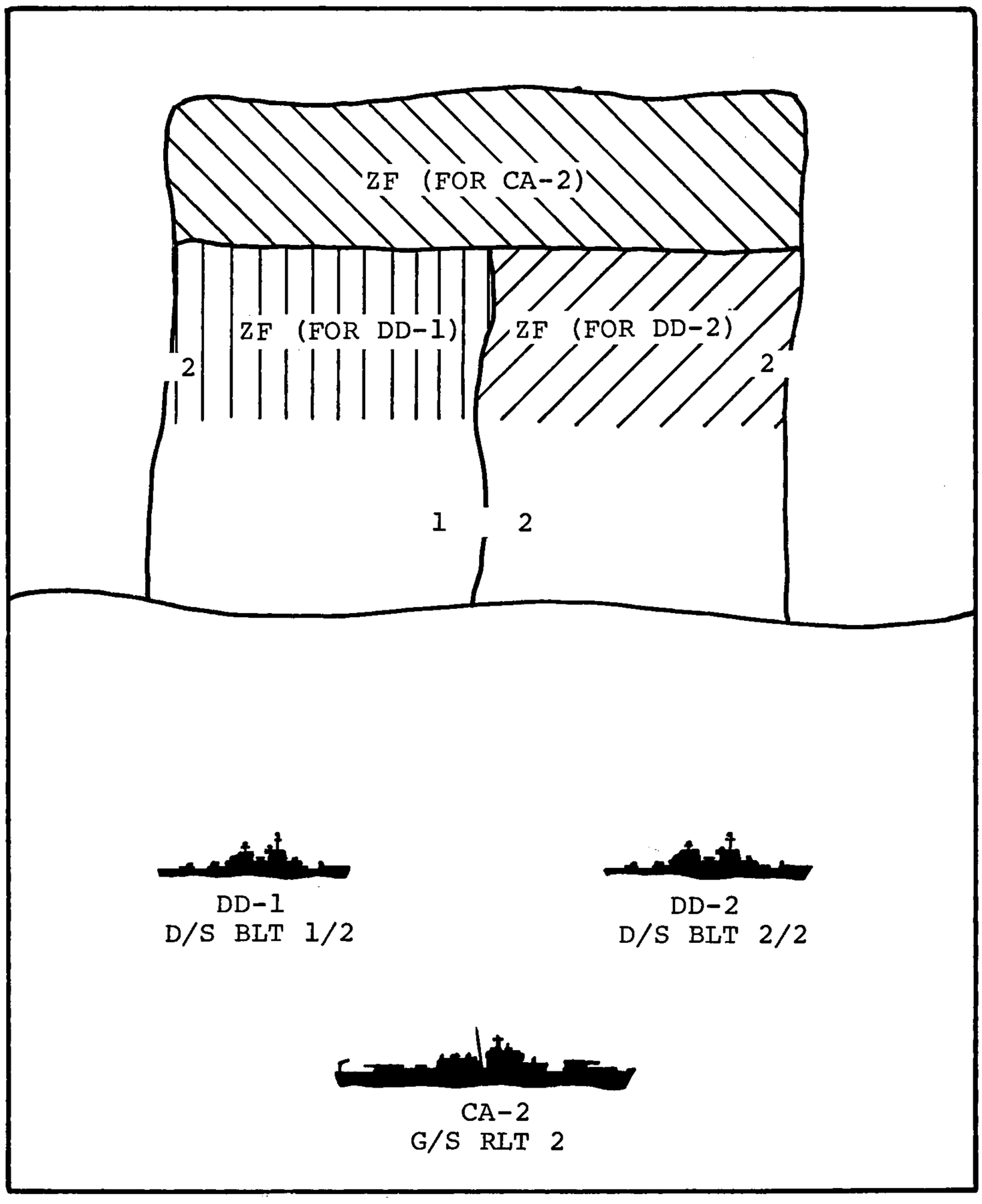

Figure 7.--Zones of Fire.

(c) Ensure that neutralization after H-hour, based on a realistic rate of advance and adequate safety factors for overhead and flanking fires, is continued.

(d) Ensure that spotting aircraft are on station at H-hour.

(e) Ensure that prearranged deep support fire targets are selected.

(f) Ensure that there are plans for deep support targets of opportunity.

(g) Ensure that the BLT naval gunfire zone of fire takes into account possible avenues of approach of enemy mechanized forces.

(4) Post-D-Day

(a) Ensure that the duration of gunfire support after D-day agrees with tactical estimates.

(b) Ensure that the withdrawal of the direct support ship(s) is taken into consideration.

(5) Additional Considerations.--In addition to the above, consideration is given to ensure that:

(a) The spotting teams have sufficient maps and charts.

(b) The state of training of SFCP personnel is adequate.

(c) The spotting teams have appropriate codes and ciphers.

(d) The consolidated target list received from the RLT contains all targets required by the BLT.

(e) All communication equipment is thoroughly checked.

(f) The pyrotechnic equipment required is distributed to the naval gunfire spotting teams.

2406. ARTILLERY

a. General.--Artillery support is not normally available in an amphibious operation until after the initial landing. Planning for artillery support peculiar to amphibious operations involves the landing of personnel, equipment, and supplies. Except when artillery is attached, the BLT is involved in artillery planning to a limited degree only. When established ashore, artillery support and artillery fire planning is that associated with land combat.

b. Artillery Support Planning at the BLT Level

(1) Artillery planning is associated primarily with the plan for landing and support of operations ashore.

(2) Forward observer and artillery liaison teams are landed with and by the infantry unit to which assigned.

(3) Attached artillery is landed with and by the BLT.

(4) Artillery reconnaissance and command elements normally land in "free boats" in a surface landing; in scheduled serials in a helicopterborne landing.

(5) Artillery units are not normally landed until position areas are relatively free of small arms and mortar fire. Therefore, such units are usually landed "on call." However, when an early requirement for artillery is indicated, as in a helicopterborne landing, it may be included in scheduled waves.

(6) Whether artillery is attached to the BLT or in direct support of the RLT, the BLT must give consideration to the position area requirements of supporting artillery units.

2407. AIR SUPPORT

a. General.--This section discusses the role of Marine aviation in support of the BLT. See the FMFM 5 series for detailed information. Offensive air tactical support functions include:

(1) Providing close and deep air support as required by the landing force.

(2) Attacking and destroying enemy installations, equipment, supplies, and personnel within the amphibious objective area.

(3) Planning and conducting nuclear and chemical weapons operations consistent with the capability of assigned aircraft and equipment.

b. Categories of Other Air Support Operations.--There are other types of air support operations which render a supporting service to the BLT either directly or indirectly. These operations include:

(1) Observation and liaison operations such as tactical observation, artillery and naval gunfire spotting, hydrographic observation, message drop and pickup, medical evacuation, and liaison flights.

(2) Aerial reconnaissance operations to gain information through the use of multisensor imagery, electronic, and visual means.

(3) Service support operations such as the movement of troops and supplies by helicopter and fixed-wing aircraft, search and rescue missions, and miscellaneous tasks. Some of the miscellaneous tasks are wire laying, courier service, aerial spraying, and propaganda distribution.

c. Organization for Combat

(1) Unlike other supporting fires, there is no definite close air support unit that provides close air support to the BLT. The air component assigned the mission of providing close air support provides support for the landing force as a whole. Preplanned or on-call missions are conducted for the BLT by aircraft launched from strip or deck alert, or on airborne alert. While Marine Corps aircraft conduct most close air support missions for the BLT, such missions are conducted in part by naval aircraft of the amphibious task force. In certain situations, the U.S. Air Force or Allied aircraft may conduct close air support missions for the BLT.

(2) The tactical air control party (TACP) is the organic element of the BLT charged with the responsibility for direction, coordination, and control of close air support missions conducted for the BLT.

(a) It is composed of three officers and 12 enlisted communication personnel. The officers are aviators: one is the BLT air liaison officer (ALO); the other two are forward air controllers (FAC's). There are two FAC parties, consisting of an officer and four enlisted personnel each. The remaining four enlisted personnel are assigned to the ALO.

(b) In both the waterborne and helicopterborne assault, the FAC parties land with elements of the assault companies. Once ashore, the FAC's establish communications as fast as possible in order to request

and control supporting airstrikes. Terrain and the friendly situation permitting, observation posts are established at vantage points. The FAC's must be prepared to displace frequently.

(c) During mechanized movements, if a tank or armored vehicle is provided to the FAC, he must ensure that other members of his party are embarked with portable radio equipment in other vehicles or tanks. This is necessary for immediate deployment if the armored column is halted, or if the FAC must debark to accompany infantry units. During troop column movements, a vehicle with suitable radio equipment may be used. During mechanized and troop column movements, the FAC and ALO should be in contact with observation and reconnaissance aircraft to the front and flanks of the column.

(d) The ALO party normally lands with the BLT command group. Once ashore, communications are established as soon as possible to monitor the requests and airstrikes of the FAC's. The ALO maintains close liaison with the S-3 and other supporting arms representatives to assist in coordinating airstrikes with fires of other supporting arms.

d. Close Air Support Planning.--Based upon the commander's concept of operations, mission, enemy situation, terrain and weather, and availability of attack aircraft, the ALO, assisted by the two FAC's, prepares initial air support plans. Like other planning for the amphibious operation, air support planning is conducted concurrently with higher echelon, the BLT staff, and subordinate units. The ALO reviews the target list that has been compiled by the amphibious task force (ATF) to determine which targets within the BLT area of interest have been selected. He reviews what aircraft have been allocated and the available armament. Since close air support is conducted for the primary purpose of assisting the BLT's, the majority of the landing force requirements are generated by the BLT. These include requirements for preplanned targets and on-call close air support.

(1) Preplanned Close Air Support.--Effective development of preplanned close air support requirements depends primarily on the ability to accumulate accurate target information. The ALO, in coordination with the other supporting arms, prepares a list of all known targets in the BLT zone of action. Targets are evaluated to determine which require destruction or neutralization. Those best suited for air attack are listed by the ALO.

(2) On-Call Close Air Support Requirements.--In order to engage targets as they appear, attack aircraft are requested to function in an on-call status. Requirements for on-call close air support are determined from an evaluation of the enemy situation. The attack aircraft are scheduled in an air alert status, ground alert status, or both. In amphibious operations where principal reliance is placed on air support from aircraft carriers, maintaining on-call attack aircraft in an air alert status may be required because of the difficulties in maintaining appreciable numbers of aircraft in a deck alert.

(3) Deep Air Support Requirements.--Deep air support requirements may be submitted by the BLT. The scope of the intelligence collection effort essential to intelligence planning of deep air support and the requirement for thorough analysis of detailed data are more compatible with the capabilities associated with higher echelons.

(4) Other Considerations.--In addition to the requirements above, consideration is given to the use of smoke to cover enemy defenses during the ship-to-shore movement. Provisions for the employment of smoke are usually made by higher echelon. See appendix A for detailed information on the employment of smoke.

e. Conditions for Employment of Close Air Support.--Employment of close air support is contingent upon the situation. Conditions listed below that affect this employment may or may not occur simultaneously. For maximum benefit, close air support should be requested when:

(1) Other means of support are incapable of accomplishing the desired results.

(a) The target is beyond the effective range of artillery and naval gunfire.

(b) Terrain masks the fire of artillery and naval gunfire.

(c) Effective attack of the target requires enfilade fires that cannot be delivered by either artillery or naval gunfire.

(2) Other means of support are unavailable or less suited to accomplish the desired results.

(a) Artillery or naval gunfire support is not available.

(b) Construction of the target is such that aircraft can accomplish its destruction more effectively and economically.

(c) Large areas require neutralization for a limited period of time.

(d) The target is constructed of flammable material.

(e) The target consists of flammable vegetation obstructing observation or impeding advance.

(f) The target is of a general and indeterminate nature, such as large wooded areas, that may conceal enemy troops or installations.

(3) The urgency of the situation requires that the forces of all available supporting arms be brought to bear.

(a) The target is moving towards friendly frontlines, but is at sufficient distance to permit the request, assignment, and direction of aircraft to prevent its attack of friendly forces.

(b) The target is moving rapidly away from friendly frontlines.

f. Communications and Coordination.--There are two radio nets utilized for requesting and controlling close air support missions, tactical air requests, and tactical air direction.

(1) Tactical Air Request (TAR) Net (HF).--The TAR is used by the FAC parties to request on-call close air support missions. Prior to

establishment of the direct air support center (DASC), such requests are transmitted to the tactical air control center (TACC) or tactical air direction center (TADC) afloat, as appropriate. After the DASC is established ashore, all on-call close air support mission requests are transmitted directly to that agency. The ALO party monitors this net.

(2) Tactical Air Direction (TAD) Net (UHF).--The FAC parties utilize this net to direct and control airstrikes on targets requested. The ALO party also monitors this net. See figure 8 for an example of a net diagram of the TAR and TAD nets and other nets of airborne agencies.

(3) Coordination Through the ALO.--The ALO is a working member of the BLT FSCC. By monitoring the two nets discussed above, he can cancel missions if they are in conflict with fire missions of other supporting arms, endanger troops, or when directed by the BLT commander. Silence by the ALO indicates consent. Assault troops are equipped with panels to mark the frontlines. Smoke is used to mark targets. Under certain circumstances, the tactical air coordinator (airborne)(TAC(A)) can identify and lead airstrikes on specific targets. To ensure air safety, an airspace coordination area can be imposed. The fire support coordination line established by the commander landing force based upon recommendations of frontline BLT's defines an area for coordination and control of close air support. The location of the fire support coordination line is reassessed as often as required by the situation and changed when necessary. Airstrikes forward of the fire support coordination line need not be integrated with the fires or maneuvers of ground forces.

g. Close Air Support Plan.--The ALO, under the supervision of the S-3, prepares the close air support plan. It is closely coordinated with the BLT staff, other members of the FSCC, higher echelon, and subordinate

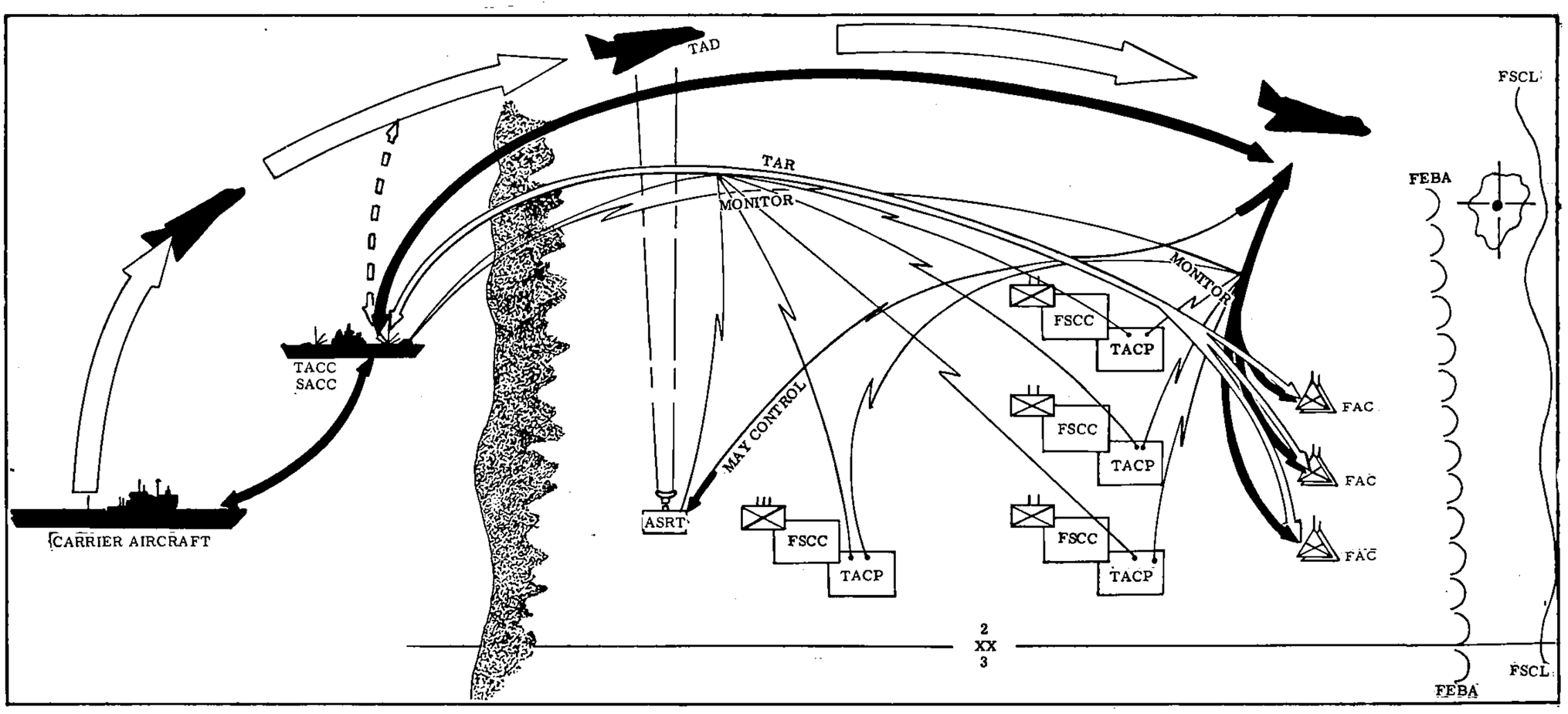

Figure 8.--Nets Required for Air Support and Air Traffic Control on D-Day or Shortly Thereafter.

units. The close air support plan will be published as an enclosure to Tab A (Air Fire Plan) to Appendix 3 (Fire Support) to Annex C (Operations) of the operation order. Primarily, the information reflected therein is extracted from the air fire plan of the RLT or higher echelon.

h. Checklist of Close Air Support Considerations.--Some of the close air support considerations that may assist the BLT commander and the ALO in planning and preparing the close air support plan include the following:

(1) Utilize documents prepared by higher echelon.

(2) Be thoroughly familiar with characteristics of the aircraft that provide close air support.

(3) Analyze all available intelligence of the enemy in the landing beach and area inland.

(4) Ensure that targets in the BLT zone of action are included in the list of targets prepared by higher echelon.

(5) Provide ordnance loading code instructions in appropriate enclosure.

(6) Recommend location of initial fire support coordination line in BLT zone of action.

(7) Ensure that the capability is present for covering the landing by a smokescreen; also determine time and duration.

(8) Select targets for preplanned airstrikes best suited for attack by air.

(9) Provide for BLT deep support requirements.

(10) Coordinate the air support plan with higher echelon, subordinate units, and members of the BLT FSCC.

(11) Ensure that frontline troops have panels for marking.

(12) Provide panels for marking drop zones for emergency airdrops of supplies.

(13) Provide the FAC parties with sufficient large-scale maps and charts.

(14) In rehearsals prior to and while en route to the objective, ensure FAC participation.

(15) Provide pyrotechnic equipment.

(16) Ensure proper boat assignment of the FAC parties.

(17) Provide for adequate control when other than naval aircraft are employed to conduct close air support missions.

2408. NUCLEAR AND CHEMICAL CONSIDERATIONS

a. Nuclear Fires

(1) The decision to employ nuclear fires is made at a level higher than the BLT. In situations when higher echelons plan to employ nuclear fires adjacent to or in the BLT area of interest, such fires are coordinated with the BLT. This is necessary to ensure troop safety and to permit the BLT commander to formulate plans to exploit to the maximum the advantage gained from nuclear fires. In any event, the BLT commander constantly evaluates the enemy situation with regard to an appropriate target and conditions for the employment of nuclear fires. He requests an appropriate weapon on such targets in accordance with established SOP's. These SOP's should provide for nuclear support with the minimum of coordination by higher echelons consistent with troop safety and support in the shortest possible time.

(2) The coordination of nuclear fire support with the maneuver of the force is of utmost importance. Safety measures as determined by the target analyses of higher units, are announced to the BLT commander and include any restrictions on the occupation of forward positions. The plan prescribes a signal to indicate when troops are to take cover. See appropriate Army FM's and FMFM 11 series for detailed information.

b. Chemical Fires.--Employed when authorized, certain riot control and nonincapacitating chemical agents are effective for weakening the enemy's defensive position and reducing his will to fight. They can be employed wherever a concentration of enemy troops is located and are particularly effective immediately before the attack. Due to the persistency of chemical agents, more detailed coordination is required for their use than is required for high explosives. Chemical fires can be delivered by artillery or tactical air. See FMFM 11-3, Employment of Chemical Agents, for detailed information concerning chemical operations.

Section V. COMMUNICATIONS

2501. GENERAL

a. Purpose.--This section considers, primarily, communications at the BLT level. Discussion consists of communications and their planning from the onset of planning through the phases of an amphibious operation. See chapter 1, section III; and FMFM 10-1, Communications, for additional information.

b. Fundamental Requirements.--There are four fundamental requirements for effective communications: reliability, speed, security, and flexibility.

c. Communication Means

(1) In the amphibious operation, almost complete dependence is placed upon radio communications during the ship-to-shore movement. Radio and multichannel radio are especially adapted to amphibious operations in that they require no physical connecting links. They are used over long distances and are especially adaptable for use between rapidly moving units. The multichannel radio personnel attached from higher headquarters install, maintain, and operate a multichannel radio terminal in the BLT command post. This multichannel radio circuit links the BLT with RLT headquarters and also serves the artillery battalion.

(2) The complexity and limitations of radio communications necessitate the establishment of telephone systems (wire or multichannel radio). Wire is not installed between the BLT CP and the rifle companies in a fast-moving attack or when rifle companies are widely separated from the BLT CP. Wire lines should be installed when time and the tactical situation permit. Such situations exist when the advance is slow, in night attacks, or in an attack in the jungle. Under such conditions, wire locals to rifle companies from the BLT switching center may be utilized.

(3) During the movement to the objective area, messages which cannot be transmitted by other means are delivered by helicopter or surface vessel. Messenger service is established ashore by higher echelon as soon after the assault as is practicable.

(4) Visual means may be used whenever conditions favor their employment. Visual means employed are flashing light, semaphore, pyrotechnics, panels, flag hoist, and arm-and-hand signals.

(5) Whistles, sirens, bells, and similar devices can be used to transmit messages, and they are interpreted in accordance with a prearranged code.

(6) See figure 9 for a typical BLT tactical radio net in the amphibious assault.

2502. COMMUNICATION PLANNING

a. General.--The BLT communication officer, in coordination with the S-3, prepares the communication plan. It is closely coordinated with the

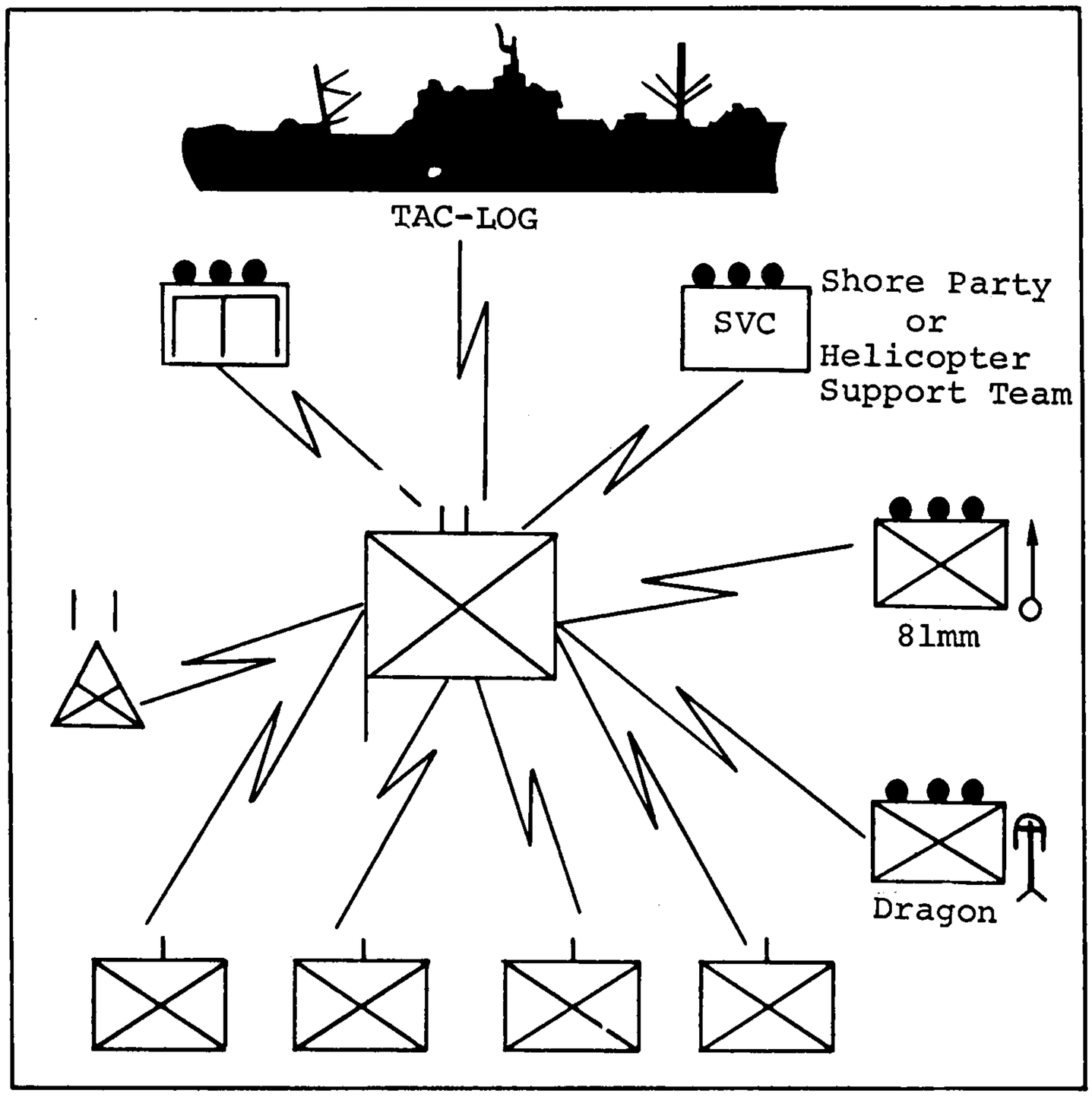

Figure 9.--Typical BLT Tactical Net in the Amphibious Assault.

entire BLT staff, subordinate units, and higher headquarters. The communication plan must support the BLT operation, administrative/logistics, embarkation, and rehearsal plans. Requirements beyond the BLT's capabilities are made known to the BLT commander and submitted to higher headquarters. As the communication plan for an amphibious operation is usually detailed, the plan takes final form as an annex to the BLT operation plan.

b. Considerations.--The first consideration in development of the communication plan is a determination of the requirements imposed by higher headquarters, subordinate units, the plan of attack, and logistics. To meet these requirements, planning is conducted concurrently with all other operational planning and continues throughout the operation. The BLT communication officer establishes close personal liaison with his counterpart at parallel and higher echelons. He obtains necessary technical and administrative instructions from higher echelon and reconciles them with the tactical requirements of the BLT commander. Some items considered in the development of the BLT communication plan are:

(1) Mission and task organization of the BLT.

(2) Mission of higher headquarters.

(3) Communication facilities for embarkation.

(4) Arrangements for naval communication guard.

(5) Allocation of shipboard radio equipment for troop use.

(6) Composition of nets to be established.

(7) Assignment and coordination of radio frequencies.

(8) Assignment of call signs.

(9) Geographic and climatic limitations to communications.

(10) Technical and operational characteristics, capabilities, and limitations of communication equipment.

(11) Rehearsals to test the plan for effectiveness and adequacy.

(12) Communications security (physical and transmission).

(13) Cryptographic matters.

(14) Time zones.

(15) Channelization of multichannel radios.

(16) Teletypewriter utilization.

(17) Wire plan.

(18) Wire-multichannel radio.

(19) Telephone service.

(20) Messenger service.

(21) Visual/sound communications.

(22) Communication supply and maintenance.

(23) Records/reports required.

(24) Waterproofing.

(25) Adequacy of SOP and communication operating instruction (COI).

c. Embarkation and Rehearsal Phases

(1) General.--As soon as the BLT is assigned shipping, and at the first planning (parallel) conference, the communication officer of the BLT exchanges the following information with the ship's communication officer:

(a) The location of the ship's communication office and the space available to the BLT for communication personnel and equipment.

(b) The ship's communication equipment that is reserved for the use of troop commanders.

(c) BLT message distribution requirements.

(d) BLT frequency and radio circuit requirements.

(e) A list of call signs, cryptographic systems, or other information pertinent to communications.

(f) Information relative to the assumption of communication and cryptographic guard.

(g) Number of personnel to augment ships' radio operators and cryptographers.

(h) A secure place to stow the BLT cryptographic allowance.

(i) Embarkation communication facilities.

(j) A place to properly store dry cell batteries and wet cell battery charging facilities.

(2) Advance Parties.--Prior to the arrival of advance parties, the BLT communication officer makes arrangements with the ship's communication officer for the following:

(a) Assignment of adequate space for the troop message center.

(b) Assignment of messengers to the ship's communication officer, radio room, and signal bridge (when required) for handling messages between these posts and the troop message center.

(c) Preparation of the directive prescribing shipboard communication procedure while embarked.

(d) Stowage of communication equipment and pyrotechnics in a space readily accessible.

(e) Establishment of access list to classified information.

(f) Establishment of authorized message releasing procedure.

(3) Loading Plans and Stowage.--Loading plans are coordinated to permit communication equipment to be stowed in an area readily accessible and to allow for the proper sequence of unloading. Communication equipment to be landed in the assault landing can be stowed in message center, spare parts storage areas, or other areas so designated. Storage in such areas permits periodic servicing of equipment. Pyrotechnics are stowed in the ship's pyrotechnics locker or other spaces designated.

(4) Communication Facilities of the Embarkation Area.--Embarkation area communication facilities, whenever possible, are provided from sources external to the BLT. The use of radio is normally restricted for security reasons. Wire and messenger service provide the principal means of communication. Communication facilities enable the embarkation officer(s)

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to control the flow of supplies, equipment, and personnel from the dumps, storage areas, and bivouac areas.

(5) Rehearsals.--Rehearsals conducted prior to and en route to the objective area provide an opportunity to check the adequacy of communication procedures and equipment. All communication equipment organic to the BLT should be landed and tested. Waterproofing or waterproof covers or containers are provided for all communication equipment. After rehearsal, equipment should be cleaned, dried, and inspected. Radio vehicles should be washed with fresh water.

d. Communications En Route to the Objective Area

(1) General.--Radio silence is maintained during the movement to the objective area until such time as radio transmissions are authorized by the commander amphibious task force. During this phase, the Navy provides all ship-to-ship and external communications. All outgoing and incoming troop communications are routed through the ship's communication center. BLT message center personnel receipt for incoming messages, process, and distribute them in accordance with written instructions furnished in the form of a "routing guide" covering all probable subjects and their cognizant staff action and information agencies.

(2) Written Messages.--Written messages within the convoy may be delivered by surface vessels, aircraft, helicopters, or visual means. Normally, helicopters are utilized.

(3) Training and Maintenance.--Training conducted during the movement primarily consists of assignment of Marine communication personnel to assist the naval communication personnel. When nearing the objective area, equipment is checked and prepared for landing and Marine communication personnel needed for the landing are relieved of all duties in the Navy communication center. Attention is given to the condition of batteries and waterproofing. Radio sets are checked to assure that dials are set and locked on the proper frequency.

e. Ship-to-Shore Movement

(1) Waterborne Movement.--In the ship-to-shore movement, two command groups are organized. One group is composed of the BLT commander and selected staff members, special staff members, and selected enlisted personnel. The other command group is composed of the executive officer and a group similar to the BLT commander's group. Radio silence is usually lifted shortly before H-hour, and at this time, the communication equipment is tested.

(a) Each of the two command echelons is provided the necessary communication equipment and personnel for command and control. When the commander's echelon becomes inoperative, the executive officer's echelon assumes control. In the waterborne movement, the command echelon proceeds to the vicinity of its control vessel and can utilize the primary control vessel's communications with naval elements and certain landing force elements. During the ship-to-shore movement, the TAC-LOG group is located aboard this ship and it is on the BLT tactical net. See section IX for further information of the TAC-LOG group. The BLT commander closely monitors his BLT tactical net to keep abreast of the tactical situation. After the command group is established ashore, the BLT commander orders the executive officer and his personnel to land and to proceed to the BLT CP.

The BLT commander and higher echelon directs which nets are to be guarded during the ship-to-shore movement. The radio equipment in the command LVTC is utilized by the command echelons when they land by this means.

(b) The assault companies activate their own tactical nets upon order. They normally remain on listening silence until just prior to reaching the beach.

(c) Initial combat supplies for the assault BLT are handled by a shore party team. A shore party team liaison party lands with the BLT headquarters. The liaison party lays wire from the beach inland, establishing a line with the shore party team and supply dumps on the beach. The remainder of the shore party lands over the BLT beach and establishes communications with adjacent shore party teams. In addition, the shore party team establishes radio communications with the TAC-LOG group aboard the control vessel. In an emergency, the BLT communicates directly with the TAC-LOG group, directing the landing of critical supplies and equipment. Normally, requests for supplies are sent by radio or wire via the shore party team to the TAC-LOG group.

(2) Helicopterborne Movement

(a) The basic concept of the ship-to-shore movement is one which stresses use of helicopters. Echelonment of command and communications for the helicopterborne assault and the waterborne assault is normally required. However, the following factors are considered:

1 Helicopter availability.

2 Payload of the helicopter.

3 Restrictions on size and weight of items carried.

4 Communication equipment in the helicopter available for troop use.

5 Control of the BLT at all times during the helicopterborne ship-to-shore movement. The net provided in the BLT commander's helicopter may be adequate for certain operations, but inadequate for others. The executive officer's group monitors this net and, when directed, proceeds to the CP.

(b) Helicopterborne operations require helicopter transportable communication equipment that has sufficient range to contact higher headquarters or control agencies directly, or to make contact by use of airborne radio retransmission. The speed of execution of the helicopterborne assault requires that communication planning be detailed and closely coordinated with higher and lower echelons and with supporting ground and air units. Requirements for transmission of a large volume of messages are reduced when decentralized control is exercised. Detailed guidance from and frequent reports to higher headquarters are eliminated by permitting subordinate commanders to operate within the framework of assigned missions. Lengthy orders and reports are avoided by using standing operating procedures and prearranged plans and message codes. To prevent communication circuits from becoming overcrowded and incapable of instantaneous response to emergency or vital operation requirements, nonvital traffic is eliminated and administrative messages are handled primarily by messenger.

(c) Required terminal guidance circuits may be as follows:

1 A circuit to permit terminal guidance teams to transmit reconnaissance information to the appropriate headquarters.

2 A circuit for coordination of the reconnaissance elements within the landing zones and sites.

3 A circuit to guide helicopters to the landing zone prior to arrival of the landing zone control team.

(d) Terminal guidance communication system.

1 To pass information to higher headquarters, the terminal guidance team normally enters the tactical air observation (TAO) net. This is a UHF voice net connecting the TACC (TADC) with the TAO. Other stations listen as required, and may transmit important information. Usually, an aircraft is placed on station on a prearranged schedule to receive messages from the terminal guidance team. These messages are passed to the appropriate control or headquarters agency. If required, a special net may be established for passing this information.

2 Communications between terminal guidance teams, when required, are established on the landing zone local net.

3 Prior to the arrival of the landing zone control team in the landing zone, and immediately prior to launching of the helicopter waves, the terminal guidance team may be required to guard helicopter direction (HD) nets number 1 and number 2. These nets are UHF voice nets used for short range control of all airborne helicopters in the objective area. The nets are guarded by all helicopter control agencies, airborne helicopters, the TAC(A), and terminal guidance teams as required. A helicopter direction HF voice net designed for backup and long range control of helicopters is available, when required. This net is guarded by all airborne helicopters, helicopter control agencies, and the landing zone control teams (initially, if directed, by terminal guidance teams). The landing zone control teams assume guard for these nets after arrival in the landing zone.

4 Wire is not installed at this stage of the operation. However, each team is authorized a signal lamp, panel sets, pyrotechnics, and flashing lights to provide visual communications as needed.

(e) Landing zone control team communications are required:

1 For the control of helicopters.

2 Between all landing sites.

3 Between the landing zone controller and the helicopter support team (HST) commander for coordinating logistic support.

(f) Landing zone control team communication systems (see fig. 10) consist of the following:

1 Each landing zone control team guards the HD net as an alternate means of communication between landing sites of a landing zone.

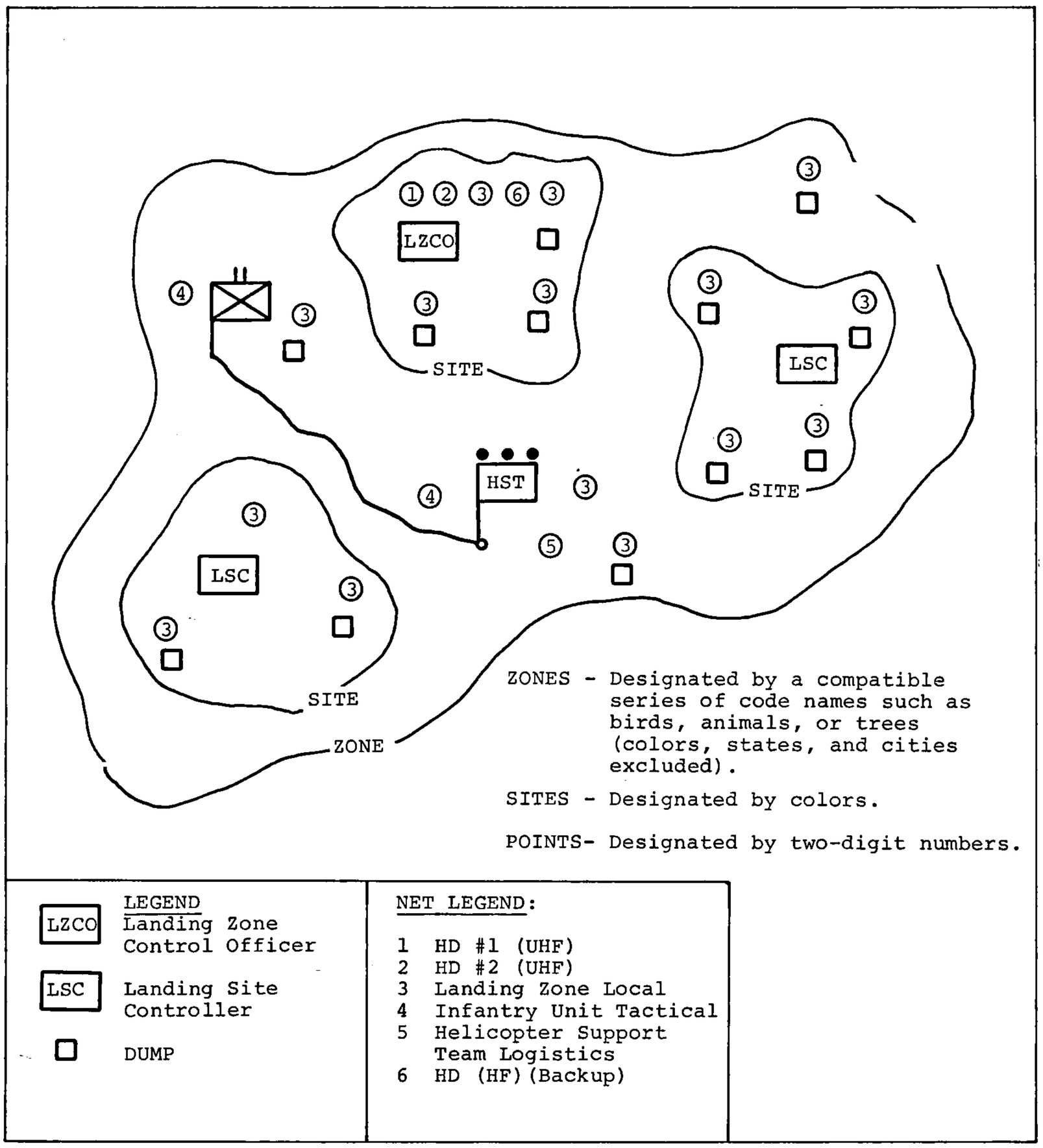

Figure 10.--Helicopter Landing Zone Communications.

2 Coordination between the HST commander, the landing zone controller, and landing site controller is accomplished over the landing zone local net.

(g) Logistic communications are required for the following:

1 Passage of logistic requests from battalion units to the HST.

2 Passage of logistic requests from the HST to TACLOG groups afloat, to the division shore party, or to other service activities.

3 Maintenance of status information of supply levels in the landing zone.

4 Coordination of logistic status between landing zones.

5 Visual identification from ground to air.

(h) Logistic support communication system.

1 The HST commander enters the BLT tactical net. This net permits the BLT commander and his company commanders to make requests for supplies directly to the HST commander.

2 The HST commander can transmit a logistic request over the HST logistics net. This net connects the HST commander with the helicopterborne force TAC-LOG group, the division shore party, or other service activities and the division TAC-LOG group.

3 The helicopterborne force commander can direct interchange or diversion of supplies between landing zones over the HST logistics net. This circuit also permits HST commanders to request supplies from other landing zones. In addition to this net, the infantry multichannel radio system can be used.

4 The landing zone(s) local net connects the HST commander, the landing zone controller, landing sites, evacuation stations, and dumps that are established.

5 Wire lines are not normally installed to support logistic operations in a helicopter landing zone when operations in that particular zone are expected to continue for a short duration.

6 Signal lamps and panel sets are available in the landing zones for ground-to-air communications. Landing sites and drop zones are marked with panels for recognition and identification purposes. Pyrotechnics may be used to transmit prearranged messages. Evacuation stations may also be identified by panels.

7 Messenger and wire, when duration of logistic operations is long, are used extensively within landing zones, thus reducing the number of messages sent by electrical means. Message-carrying capabilities of all types of helicopters are utilized.

8 Sound systems are installed as soon as possible to direct debarking troops, to warn personnel in landing sites of incoming helicopters, to direct cargo handling crews, and to announce condition alerts.

Section VI. LOGISTICS AND PERSONNEL PLANNING

2601. GENERAL

The basic principles and procedures applicable to all levels of logistics and personnel planning are discussed in detail in FMFM 3-1, Command and Staff Action; FMFM 4-1, Combat Service Support for Marine Air-Ground Task Forces; FMFM 4-3, Landing Support Operations; and FMFM 4-5, Medical and Dental Support.

2602. LOGISTIC PRINCIPLES

A logistic support system which is simple, balanced, and immediately responsive to the needs of the BLT must encompass the following principles:

a. Planning and provision of logistic support is the commander's responsibility.

b. The impetus of logistic support is from seaward forward to the point of application ashore.

c. The logistic support system should provide support directly from source to using unit, bypassing intermediate echelons or installations.

d. Combat troops are relieved of logistic burdens to the greatest extent possible.

e. Coordination of tactics and logistics is mandatory.

f. Required logistic support is delivered in the needed amounts at the right time and place.

g. Resources of the unit are fully exploited before drawing on external agencies.

h. The logistic system must ensure economical application of logistic means by providing for adequate but not excessive means.

i. The logistic system must be flexible, mobile, and simple in design and execution.

2603. LOGISTIC PLANNING

a. Logistic planning for an amphibious operation must provide for accomplishment of the following objectives:

(1) The orderly assembly and movement of personnel, supplies, and equipment of the BLT.

(2) The establishment and maintenance of a support system in the objective area which will provide responsive and adequate logistic and administrative support to the BLT.

b. The development of the BLT logistic support plan is based on command planning guidance, operation plan, directives issued by higher

headquarters, experience factors, tables of allowances, and individual unit requirements.

c. Logistic planning for an amphibious operation commences upon the initiation of planning by the BLT and progresses concurrently with the tactical planning as a continuous, detailed process. It proceeds from the preparation of the logistic estimate and the initial estimate of overall requirements for supplies and combat service support, to the establishment and operation of a logistic support system in the objective area.

d. Logistic planning is conducted concurrently at all levels of the landing force on the basis of information available. It is subject to continued adjustment and readjustment as information is received and new requirements are generated, concurrent with plans of every unit or element having a logistic impact on the operational planning of the BLT.

e. The requirement of the BLT for cargo and troop space in assault shipping must be based on support of the landing plan and operations ashore.

f. The requirement for scheduled resupplies and for on-call resupply must be integrated into a plan which provides for quick, flexible responses to the combat situation.

g. The need to shift the logistic support system of the BLT from sea to land without loss of momentum of the attack is peculiar to the amphibious operation. The development of logistic support ashore includes:

(1) Landing of prescribed loads with individuals and units.

(2) Employment of floating dumps.

(3) Replenishment of helicopterborne forces.

(4) Selective unloading.

(5) Establishment of service facilities ashore.

(6) General unloading.

(7) Resupply.

2604. PLANNING SEQUENCE

a. The logistic planning process involves two phases. The first phase is the preparation of the logistic estimate. The second phase is the determination of how to support the course of action chosen by the commander.

b. Based on the commander's planning guidance, the logistics officer makes a detailed estimate of the situation in which he considers all aspects of logistics as they affect the mission of the BLT. The logistic estimate must present an orderly examination of the factors of supply, evacuation and hospitalization, transportation, and service support as they pertain to the courses of action under consideration. The logistic estimate:

(1) Assesses logistic capabilities and limitations.

(2) Determines whether logistic capabilities are sufficient to support a contemplated course of action.

(3) Determines which course of action is most desirable from a logistic standpoint.

c. In supporting the commander's course of action, four steps are involved:

(1) Estimate of Overall Requirements.--Based on the commander's concept of operation, overall logistic requirements for each phase of the operation are estimated.

(2) Computation of Detailed Requirements and Presentation to Higher Authority.--The computation of requirements provides the basis for refinement of the previously stated overall requirements which are finally presented to higher authority as specific logistic support requirements. It is a detailed statement of what is required and by what means the requirements are to be met. It includes mount-out supplies, assault shipping, resupply, and combat service support.

(3) Allocation of Means and Assignment of Responsibilities. --The commander allocates the logistic support means assigned him to his subordinates in the BLT and assigns specific logistic responsibilities.

(4) Final Preparation of Plans.--When all logistic requirements and means are determined, administrative/logistics and embarkation plans are published.

2605. PLANNING CONSIDERATIONS

a. Consideration must be given to the following factors in planning for the logistic support of the BLT:

(1) Mission of the BLT.

(2) Characteristics of the objective area.

(a) Resources.

(b) Climate, weather, and terrain.

(c) Indigenous population considerations.

(3) Enemy situation and capabilities.

(4) Characteristics of operations to be supported.

(5) Composition of the BLT, to include attachment of combat service and combat support elements.

(6) Time span of the operation.

(7) Tasks requiring special supplies and equipment.

(8) Approximate date of embarkation.

(9) Tentative shipping assignment.

(10) Landing plan and scheme of maneuver ashore.

(11) Logistic support responsibility in the objective area upon termination of the amphibious operation.

(12) Equipment modifications.

(13) Medical requirements.

b. For other considerations, see section II, paragraph 2203.

c. Logistic planning is accomplished by determining the support required in the objective area first and continuing in reverse sequence. Considerations are listed below:

(1) The logistic estimate and situation based on available information and decisions of higher echelon and the BLT commander.

(2) The receipt of supplies of the BLT until higher echelons have landed and assume responsibility for operation and control of supply activities ashore.

(3) Embarkation planning (see sec. VII).

(4) The landing plan and ship-to-shore movement.

2606. BASIC LOGISTIC FUNCTIONS

This paragraph outlines the scope of the four basic logistic functions.

a. Supply

(1) General.--Requirements for supply support of the BLT in an amphibious operation are based on the mission, tactical plan, and composition of the BLT. Within the BLT, the S-4 plans, coordinates, and supervises operation of supply support. The supply officer, as commander of the service platoon, utilizes personnel of the platoon to implement plans approved by the BLT commander.

(2) Requirements.--The requirements of supply support in an amphibious operation are divided into two main categories: assault supplies and resupply. At the BLT level, the primary concern is assault supplies.

(a) Assault Supplies.--Assault supplies comprise the supply levels which accompany the BLT to the objective area and provide the required initial support for the landing and associated operations. They include the prescribed loads, floating dumps, and all other BLT supplies embarked in assault shipping.

1 Prescribed Loads.--Prescribed loads are the types and quantities of supplies which a commander prescribes for the support of designated subordinate units, normally expressed in days of supply or fractions thereof. The prescribed load is not a fixed quantity and may change from day to day, or from operation to operation, at the discretion of the commander. A primary factor in setting the prescribed load is the amount of supplies which can be carried by individuals and in assigned transportation.

2 Landing Force Supplies.--Landing force supplies are those which are required for the support of the landing force in the objective area excluding prescribed loads.

a Floating Dumps.--These are temporary storage facilities established in landing craft or assault amphibious vehicles from which supplies are available on-call for delivery to units ashore. When dumps are established ashore and replenishment can be provided from shore-based installations, there is no further requirement for floating dumps. Higher authority directs the establishment of floating dumps and prescribes the amounts and types of supplies to be included. During the planning phase, the BLT commander makes recommendations as to items desired in these dumps in respect to his BLT. Floating dumps are normally established in the vicinity of each primary control ship. They consist of landing craft and/or assault amphibious vehicles loaded with specified amounts of ammunition rations, water, and other supplies required to sustain the BLT and other units until adequate levels are established ashore. Supplies from floating dumps are obtained by the BLT commander via the shore party. They arrive at the BLT beach either by boat or by assault amphibious vehicle. The shore party unloads the boat at the beach. In case an assault amphibious vehicle lands the supplies, a guide is furnished at the landing point to direct the vehicle to the desired unloading point.

b Remaining Landing Force Supplies.--These are the landing force supplies not included in the prescribed loads or floating dumps. They constitute the major part of the supplies and equipment carried in assault shipping. The bulk of these remaining supplies are landed during general unloading.

(b) Resupply.--Resupply are those supplies and equipment provided to subordinate units of the landing force by logistic support agencies within the objective area. Although the BLT is a recipient of a part of these supplies, it is not responsible for resupply planning unless conducting independent operations.

(3) Estimate of Requirements.--The S-4 makes an estimate of requirements in the form of a checklist. Higher echelon usually specifies the prescribed load to be landed by the BLT unless the BLT is the landing force, in which case the BLT commander landing force determines the prescribed loads. The prescribed load of the individual Marine and that to be carried in assault vehicles are also often specified by higher echelon. The S-4, assisted by the supply officer, is concerned with the requisition, receipt, storage, transportation, and distribution of all classes of supplies. Since the RLT does not have the capability of providing logistic support for subordinate units, the battalion supply officer requisitions and receives supplies directly from combat service support units organic to the division. Supplies are allocated to provide each echelon of the BLT with supplies, making each self-sufficient until it can be resupplied from the landing force supplies. Plans for the receipt of supplies ashore are coordinated with the shore party team commander or the helicopter support team commander, as applicable. Supplies landed by helicopter may require engineers preparing landing sites. Logistic planning for the loading and unloading of supplies and their ship-to-shore movement is discussed in section VII.

b. Evacuation and Hospitalization (Treatment)

(1) Planning.--The S-4 plans the chain of evacuation for both personnel and materiel, provides evacuation facilities, and exercises overall supervision of evacuation and hospitalization functions. The S-4 and BLT surgeon determine the requirements for medical augmentation. Normally, the augmentation, if approved, is a detachment from the medical company, medical battalion, force service support group (FSSG). A medical plan based on the BLT operation plan and the RLT administrative/logistics plan is prepared and normally included as an annex to the BLT administrative/logistics plan. Pertinent instructions are included in the medical plan regarding procedures to be used in the evacuation of casualties by helicopter and the ground assistance required by helicopter units. The BLT is only concerned with hospitalization if it is conducting an independent operation. (See FMFM 4-5, Medical and Dental Support.)

(2) Medical Planning Considerations

(a) The ship's medical officer is responsible to the commanding officer of the ship for the health of all embarked troops and provides the required medical supplies and equipment. BLT medical personnel supplement and assist ship's medical personnel during embarkation and movement to the objective area.

(b) The BLT aid station is echeloned for the ship-to-shore movement. The first echelon lands with the battalion command group. The second echelon lands as directed.

(c) The battalion surgeon directs employment of detachments from the medical company to expedite battlefield collection and evacuation.

(d) Adequate numbers of litter bearers must be assigned to aid stations. Twenty-four is normal for a battalion.

(e) Aid stations are established in secure areas and security responsibility assigned to supported units.

(f) Evacuation points are established in the vicinity of helicopter landing zones/beach.

(g) The BLT commander is responsible for all medical service in his zone of action until shore evacuation stations are established.

(h) Procedures for maintenance of property exchange must be established.

(i) Helicopter medical evacuation procedures are established.

(j) Provisions are made for mass casualty evacuation in a nuclear environment.

c. Transportation

(1) The S-4 is concerned with the use of all forms of transportation for movement of supplies, equipment, and personnel. He must plan for the effective use of available transportation and submit requests to

higher echelon for additional or special types of transportation. The decision as to what type and quantity of vehicles to accompany the assault echelon is based on the availability of ships, helicopters, cargo space, terrain, tactical plan, and logistic requirements to support it. The priority and phasing of vehicles in the assault is usually planned by the S-3 in close coordination with the S-4.

(2) Prior to embarkation, all vehicles are inspected to ensure that they are in good operating condition. The waterproofing and assembly of fording kits is conducted under the supervision of the BLT motor transport officer.

(3) The S-4 plans and supervises traffic control in coordination with the S-3 and military police. The motor transport officer should land early in the assault to effect liaison with the shore party team and coordinate directing BLT vehicles.

d. Services.--Requirements for combat service support are derived from the mission and composition of the BLT, the characteristics of the objective area, and the BLT requirements for supply, transportation, and medical support. Combat service support is provided by organic service troops, combat service support elements attached, and those external agencies assigned to provide service support. Information concerning these tasks are set forth below:

(1) Service Platoon (Organic).--The service platoon has a platoon headquarters and four sections consisting of supply, armorer, transport, and mess. Primary tasks of these sections are:

(a) Supply Section.--During the planning phase, the supply section requisitions, receives, records, and distributes supplies to units of the BLT. In addition, they supervise the preparation and crating of supplies of BLT units and supplies retained under BLT control. In the assault, they receive supplies directly from the shore party team/helicopter support team on the beach/landing zone. When supplies are received, they are recorded and distributed to using units. No sizable stocks are maintained in the distribution point, and supplies are issued as fast as consistent with the tactical situation. Once the logistic support area (LSA) is established, it assumes responsibility for delivery of supplies to the BLT distribution point. The supply section's tasks remain the same, except when speed is desired, loaded trucks from the LSA may be routed through the BLT distributing point (for recording) directly to the using unit. Personnel from using units are sent to the distribution point to serve as guides.

(b) Armorer Section.--During the planning phase, the armorer section inspects all organic weapons of the BLT and provides second echelon maintenance as necessary, except for fire control equipment. They may be assisted by ordnance contact teams from the division service battalion. During subsequent phases of the amphibious operation, they continue to perform maintenance as required.

(c) Transport Section.--The transport section is capable of second echelon maintenance of organic motor transport and engineer equipment (mechanical only). In combat, selective interchange of parts of damaged or wrecked vehicles may be authorized.

(d) Mess Section.--In the planning phase, the mess section inspects and prepares field messing equipment for shipment. The mess section

receives field rations and makes distribution to units of the BLT. Once the tactical situation permits, the mess section may prepare hot meals at the galley locations in the BLT service area or may be divided to operate company galleys.

(2) Shore Party Team.--The shore party team initially supports an assault BLT, and thereafter performs shore party functions for all units landed over its assigned beach. It facilitates landing and movement off the beach of troops, equipment, and supplies, and it evacuates casualties and prisoners of war from the beach area. It is provided with communications to the primary control ship and is the medium through which the BLT commander requests supplies to be landed. Helicopter support team operations are discussed in paragraph 2607c.

(a) A shore party liaison section is provided to assist the BLT commander in the landing of supplies as required. The liaison section accompanies the BLT commander ashore. Specific functions of this section are to:

1 Operate wire communications between the shore party team on the beach and the BLT command post.

2 Receive the BLT commander's requests for supplies and transmit appropriate instructions for their accomplishment to the shore party team, if established on the beach, or the TAC-LOG group, as appropriate. In the event that these requests are submitted to the shore party team, they are relayed to the TAC-LOG group aboard the primary control vessel.

3 Report to the TAC-LOG group any developments in the tactical situation in the BLT's zone of action which may influence logistic requirements.

(b) The forward echelon of the shore party team consists of a command, reconnaissance, communication, and liaison section. It is the responsibility of the BLT commander to provide for landing these personnel. The shore party team commander will normally land with the forward echelon of the shore party team. The general function of the forward echelon of the shore party team is to initiate preliminary shore party operations and to prepare for full-scale operations. The forward echelon is not prepared to handle the unloading of general supplies. It maintains communications with the shore party liaison section at the BLT command post and establishes and maintains communications with the TAC-LOG group aboard the primary control ship.

(c) The initial functions of the shore party team are to provide for the unloading of emergency supplies and organize the beach for general unloading. The shore party group commander reconnoiters the beaches and verifies or modifies as necessary the shore party plan for beach consolidation. Throughout the beach preparation and organization, the shore party team continues to monitor on-call unloading as requested, to provide emergency supplies, and to build up shore stock levels of critical items. As the tactical situation develops and additional shore party equipment, personnel, and supplies are landed, minimum preplanned levels of supply are established ashore. By the time general unloading commences, the beach support area (BSA) is organized and inland supply installations are developed into LSA's. Then shore party teams are centralized, first under shore party group control and subsequently under division control. When the

consolidation is effected, the BLT shore party liaison section returns to its shore party organization. Except in the case of emergency, the BLT supplies are then obtained directly from the LSA.

(d) A communication section is assigned to each committed shore party team headquarters. Personnel and equipment for this team are provided by the headquarters and service company, landing support battalion, FSSG. The communication section of the shore party team includes wire, radio, and message center personnel. Necessary communication personnel are with the reconnaissance party of the shore party team headquarters. For detailed information, see FMFM 10-1, Communications.

1 The shore party team commander guards the BLT tactical radio net to provide a communication link and to parallel wire communications to the BLT command post.

2 The (color) beach shore party control net is the first shore party net established. It provides a means for shore party units to coordinate and control the flow of supplies and personnel over the beaches. A separate shore party control net is operated for each color beach. The net is guarded by shore party liaison teams, TAC-LOG groups of supported units using (color) beach, shore party teams, shore party group (color) beach, and landing force shore party and division TAC-LOG groups as required.

3 The reconnaissance party ashore is reinforced by the landing of the communication section with the shore party team headquarters. This unit provides additional personnel, heavier wire equipment, and additional radio equipment. A communication center is established which coordinates the functioning of the various communication means and provides a limited message center service. A switching central is established and trunklines are laid to adjacent shore party teams and the supported BLT.

(e) The beach party team is the naval component of the shore party team. Its commander is the beachmaster. The beachmaster operates radios for transmission to naval forces afloat and to naval components on adjacent beaches, thus providing alternate channels of communication from the beach to the control ships and transports. The beach party team also establishes a visual station for communications seaward and a public announcing broadcast station for communications by voice with personnel of the beach party and with forces afloat within range. See FMFM 10-1, Communications, and NWIP 22-5, The Naval Beach Group, for detailed information concerning naval beach group communications. Refer to FMFM 4-3, Landing Support Operations, for details on the functioning of shore party teams.

2607. LOGISTIC PLANNING, HELICOPTERBORNE

a. Basic Considerations.--The basic principles, techniques, and procedures applicable to helicopterborne planning and logistic support are the same as for surface-landed operations. This paragraph considers only those logistic aspects which are peculiar to the helicopterborne operation. These aspects require that:

(1) The level of supplies carried with the helicopterborne forces should not impair their mobility.

(2) The BLT and subordinate units should be free of excessive logistic burdens.

(3) The logistic system must be economical, simple, and flexible; however, it must be consistent with the requirements of adequate support of operations ashore.

(4) Tactical and logistical plans should be closely and continually coordinated to assure availability of helicopters for logistic support of helicopterborne forces.

(5) Planning should provide for an alternate means of logistic support. The use of fixed-wing aircraft for aerial delivery provides flexibility in executing tactical and logistical plans.

(6) Plans for the logistic support of helicopterborne forces should be coordinated and integrated with the plans for the overall logistic support system, to include the attachment of adequate combat service support elements to each HST. Plans should provide for shifting supply sources from amphibious shipping to shore-based installations. Such plans require that surface-loaded supplies be prepared in advance for helicopter delivery and that designated supply installations establish helicopter landing sites.

b. Planning Requirements

(1) Plans should include allocation of helicopters to include initial and continuing logistic support of the helicopterborne force. All available helicopters may be employed initially for the landing of combat troops and their equipment. However, plans should provide for the availability of helicopters for early landing of supplies to build up and maintain desired supply levels ashore and for the landing of subsequent units.

(2) General considerations concerning helicopter requirements planning include personnel and amounts of equipment and supplies to be landed by helicopter; the time period within which personnel, equipment, and supplies must be landed; types of helicopters available; distance; and weather and terrain factors.

c. Helicopter Support Team.--An HST is a provisional task organization composed of personnel and equipment of the helicopterborne force, the supporting helicopter unit, and augmentation from other units as required. A team normally is attached to the helicopterborne unit and is employed in each landing zone to provide support to helicopterborne units landing in that zone. Its composition, organization, and equipment are governed by the scope of the contemplated operation.

(1) Composition of the Helicopter Support Team.--There is no standard organization for an HST. The ground nucleus for the team may come from the tactical ground unit or the landing support battalion, FSSG. Normally, when a logistic buildup is planned in the vicinity of the landing zone, the nucleus of the HST is drawn from the landing support battalion, FSSG. With no buildup planned, the nucleus comes from the service elements of the helicopterborne unit augmented by control personnel from the helicopter unit. (See fig. 11.)

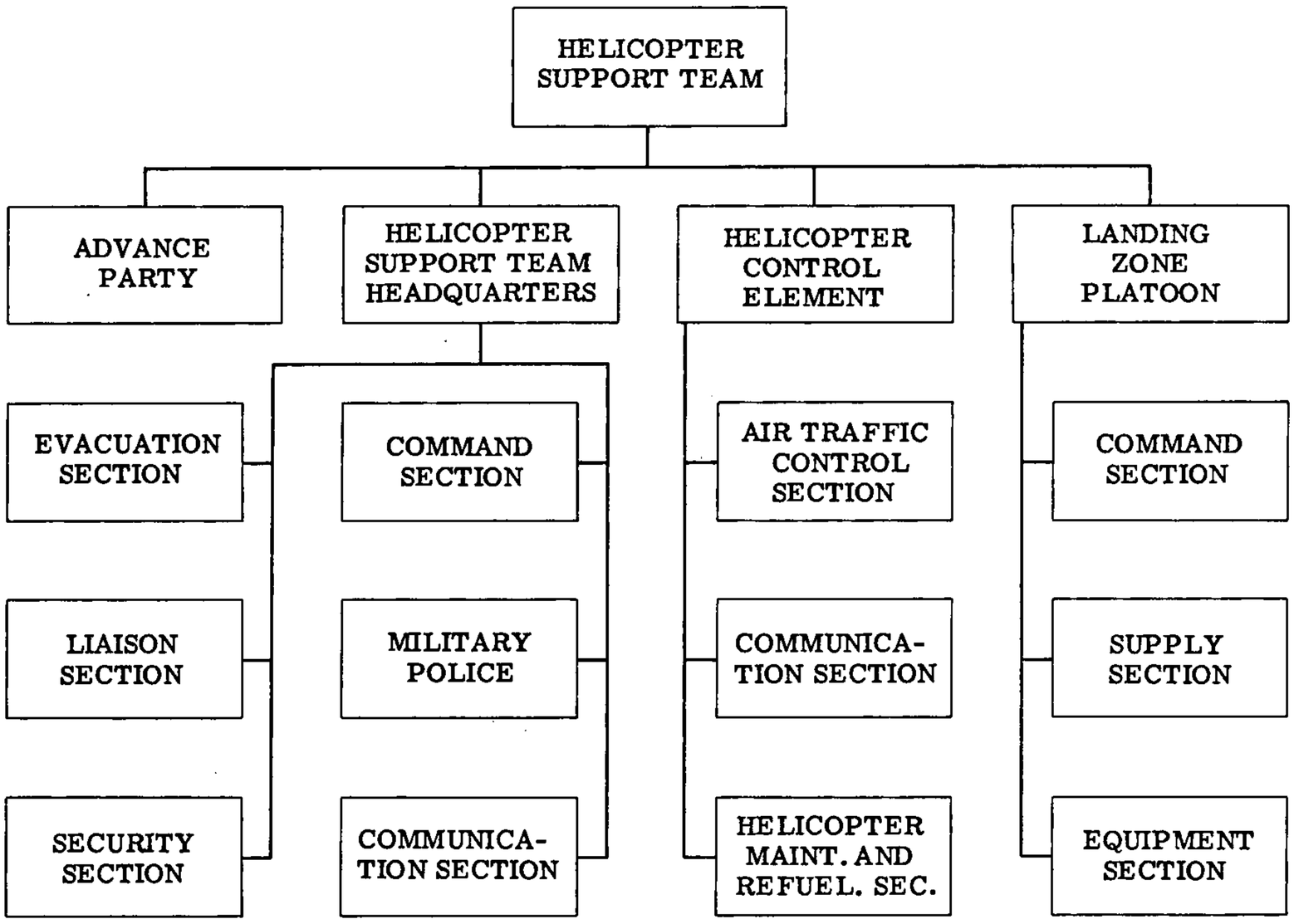

Figure 11.--Helicopter Support Team.

(2) Organization of the Helicopter Support Team.--In arriving at the organization for the HST, the planners consider the need for the following:

(a) An advance party of command, communication, liaison, and other required personnel. The advance party lands in early waves and establishes the command and communication system of the HST. Upon completion of these tasks, the advance party is disbanded and assigned other tasks within the support team or returned to parent organizations.

(b) A helicopter support team headquarters with command, evacuation, security, communications, and other sections as required.

(c) A landing zone platoon composed of command, supply, and equipment sections. It performs such assigned tasks as preparing, maintaining, and marking landing sites for unloading and loading helicopters; transporting cargo to distribution points; and operating supply installations.

(d) A helicopter control element which may be composed of landing zone control teams and communication and helicopter maintenance and refueling sections. Headed by a landing zone control officer, the helicopter control element is utilized to control all helicopters operating in the vicinity of the landing zones. Personnel for this section are provided by the helicopter unit designated to make the lift.

(3) Tasks Performed by the Helicopter Support Team

(a) Tactical.--The HST establishes and operates electronic and visual navigational aids to guide aircraft, establishes and maintains

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required communications, directs and controls helicopter operations within the landing zone, and participates in local security as required.

(b) Logistic.--The HST selects areas adjacent to landing sites for distribution points and other logistic installations, HST CP's, casualty evacuation stations, and defense positions for logistic installations. Additionally, the HST must unload and load helicopters; operate material-handling equipment; maintain records of supplies received, issued, and on hand; and prepare supplies and equipment for helicopter movements. Other duties include the loading of casualties in helicopters for evacuation, maintenance of landing zones and sites, and the provision of mobile maintenance teams, when necessary.

d. Delivery of Supplies and Equipment

(1) Types of Helicopter Delivery.--Air landed and freedrop methods may be used to deliver supplies by helicopter.

(a) Air Landed.--Helicopters normally land when carrying internal loads. With external loads, however, they hover while discharging loads. External loads provide greater flexibilty and speed by reducing loading and unloading time.

(b) Freedrop.--Packaging requirements for freedrop from low-altitude helicopers are less stringent than packaging for freedrop from fixed-wing aircraft. In many instances, standard containers reinforced with steel strappings will withstand the shock of low-altitude helicopter drops. Helicopters equipped with power hoists to lower cargo are useful for fragile loads, but this method is usually too slow for normal missions.

(2) Loading Procedures.--Careful planning is necessary to ensure that supplies and equipment are prepared for lift and spotted at the proper time in order to retain the speed advantage gained by the use of helicopters.

e. Landing Sites and Distribution Points for Supplies and Equipment. --Distribution points for supply classes will be established within each landing zone and marked with regular shore party markers. Satisfactory landing sites are located at or near distribution points. Landing sites of sufficient size with clear approaches and exits accessible to troop supply personnel are desirable. Consequently, they are chosen to take advantage of the terrain so that ground traffic to and from the distribution point will not interfere with the landing of helicopters. Rapid movement of supplies from the landing site to the distribution point is facilitated so that there will be no interference with subsequent helicopter landings.

f. Logistic Procedures

(1) Landing of Supplies

(a) Equipment and supply items initially landed with assault troops should be adequate to conduct operations ashore for approximately 24 hours.

(b) Ample reserves of critical supply items are held readily available aboard each assault helicopter carrier for emergency on-call delivery. Additional reserve supplies are prepositioned aboard other suitable ships with helicopter platforms.

(c) Helicopters must be available for delivery of resupply following the landing.

(d) Emergency resupply by airdrop from fixed-wing aircraft is planned as an alternate means of supply delivery.

(2) Sequence of Logistic Operations.--Logistic support for helicopter operations normally follows this sequence:

(a) Prescribed loads are landed with assault troops.

(b) Each helicopter support team advance party lands in its designated landing zone, improves the landing sites, and selects locations for helicopter support team installations.

(c) Supplies and equipment are landed in accordance with predetermined schedules, except as modified by landing force requirements ashore. The helicopter support team commander is advised when requested emergency supplies are en route. When supplies cannot be delivered directly to the unit concerned, he prepares for expeditious unloading and for delivery to requesting units.

(d) During the early hours of the helicopter ship-to-shore movement, casualties are normally evacuated by surface means to designated landing zone casualty evacuation stations.

2608. PERSONNEL

a. Purpose.--The primary purpose of plans pertaining to personnel at the BLT level is to maintain the strength and combat effectiveness of the BLT and to provide necessary services for members of the command.

b. Personnel Estimates.--Using information from higher headquarters and the BLT broad concept of operation, the BLT S-1 prepares a preliminary personnel estimate. This estimate is not a formal estimate, but a checklist of requirements, capabilities, and limitations. The format contained in FMFM 3-1, Command and Staff Action, may be used as a guide to ensure all aspects of the personnel situation are considered. Once courses of action have been selected for study, the BLT S-1 points out the important advantages and disadvantages in the personnel field of each proposed course of action. Usually, only strengths, replacement capabilities, loss estimates, and morale are personnel considerations in the commander's estimate of the situation. However, on occasion, other personnel matters, such as control of the civilian population, status of discipline, and the handling of unusually large numbers of prisoners of war, may become factors of importance. The estimate is the basic guide for the preparation of detailed requirements.

c. Personnel Planning.--The BLT S-1 prepares paragraph 5 of the administrative/logistics plan. Personnel planning commences upon initiation of planning by the BLT. The primary function of the S-1 during the planning phase is to prepare rosters, records, and detailed strength of personnel of the BLT, to include personnel attached for embarkation and landing. He secures replacements, arranges for their reception, processing, and distribution (coordinated with the S-3 and S-4). Requirements, information, and instructions are usually set forth in the personnel paragraph in the RLT administrative/logistics plan. The factors set forth in the personnel paragraph are as follows:

(1) Strengths.--The initial strength or strength for embarkation and required strength reports.

(2) Replacements.--The employment of replacement units, availability of individual replacements, requisitioning, and processing procedures.

(3) Discipline, Law, and Order.--The control and disposition of stragglers and military justice.

(4) Prisoners of War.--The collection, safeguarding, evacuation, treatment, and discipline of prisoners of war.

(5) Graves Registration.--The evacuation and processing of the dead, cemetery location, and disposition of personal effects of the dead.

(6) Morale and Personnel Services.--Includes decorations and awards, rest and leave, postal service, exchange service, pay, and religious activities.

(7) Personnel Procedures.--Promotion, reduction, rotation, and transfer.

(8) Interior Management.--The movement, location, and internal arrangement of the CP.

(9) Civilian Employees.--The procurement, utilization, and administration of civilian employees.

(10) Miscellaneous.--Personnel and administrative matters not covered elsewhere.

2609. ADMINISTRATIVE/LOGISTICS PLAN

An administrative/logistics plan is a formal statement of the necessary information and instructions under which the elements of the BLT administer personnel activities and receive logistic support. It normally is issued separately. It usually referencés the RLT administrative/logistics plan and amplifies certain instructions as required. By concurrent, parallel, and detailed planning, much of the ground work for the preparation of the plan or annex is completed prior to its actual writing. Preliminary studies, the commander's estimate, conferences at the RLT headquarters and with supporting units, liaison with naval personnel of assigned shipping, SOP's, and other guidance provide the basis and material upon which the BLT plan is formed. Throughout planning, the plan is being formed in fragments, with each essential part of the plan being approved by the BLT commander. The RLT administrative/logistics plan is used as a checkoff list for the S-4/S-1 to determine the completeness and correctness of its own plan. The S-4 actually prepares the plan based upon assistance from various staff and special staff members. See FMFM 3-1, Command and Staff Action, for the prescribed format for an administrative/logistics plan or order.

2610. STAFF ASSISTANCE

Staff assistance for the preparation of estimates and the administrative/logistics plan or annex is obtained by briefing interested staff members on the proposed administrative/logistics plan as it exists at the time. The preparation of specific subdivisions of the administrative/logistics plan are assigned to the staff members.

a. S-1/Adjutant.--The S-1 prepares the personnel paragraph of the administrative/logistics plan and effects coordination with the S-4 on matters of troop strengths, straggler control, prisoners of war, burials, civilian control, displacement and location of CP's, reports, and other personnel matters which relate to logistic planning.

b. Intelligence Officer (S-2).--The S-2 provides the S-4 with information as to enemy dispositions and capabilities which may affect the operation of the supply service and evacuation systems. Terrain and beach studies and planning aids, such as maps, charts, and aerial photographs, are obtained from the S-2.

c. Operations Officer (S-3).--The S-3 works closely with the S-4 throughout planning. Since the overall plan for logistic support must support the plan of attack, the details of the plan of attack are made available as soon as they are determined. The plans for embarkation and the logistic support during the landing and assault are based upon the need for supporting the plan of attack. For detailed information concerning the plan of attack, see paragraph 2207.

d. Supply Officer.--The supply officer advises the S-4 as to the types and quantities of supplies and equipment available for the operation. He assists in the formulation of the plan for receipt and establishment of supply ashore. His primary task is the procurement, preparation, and issuance of supplies prior to embarkation.

e. Medical Officer.--The medical officer advises the S-4 as to matters concerning medical equipment, supplies, and evacuation procedures. He prepares an estimate of the need for medical supplies, equipment, and personnel and recommends methods for distributing medical personnel, equipment, and supplies. For example, the medical officer determines which medical supplies are needed early in the assault and recommends that they be included in floating dumps or to be readily available for helicopter pickup and delivery.

f. Embarkation Officer.--The embarkation officer advises and assists the S-4 on matters of embarkation and loading. The logistic plan is closely related to the amount of shipping assigned. To achieve most effective and flexible use of available shipping, the S-4 is aided by the embarkation officer's detailed knowledge of ship's characteristics.

g. Motor Transport Officer.--The motor transport officer advises on matters pertaining to traffic control, supply routes, priority of movement on vehicles, initial assembly areas ashore, maintenance, instructions regarding the operation of motor transport attachments, and procedures and responsibility for collection, repair, and disposition of vehicles. He ensures that the level of maintenance is maintained, that all equipment is in a high state of serviceability when embarked, that adequate spare parts are carried in assault shipping of the BLT, and that preventive maintenance is reestablished as soon as practicable after landing.

h. Communication Officer.--The communication officer advises the S-4 as to the types and amounts of communication supplies and equipment to be embarked. He supervises communication supply, including the determination of requirements, procurement, storage, distribution to subordinate units, and maintenance and repair of communication equipment. He advises the S-4 of the communication means available to satisfy the logistic requirements.

i. Service Support Elements.--Commanders of service support elements (shore party, engineer, supply, etc.) which may be assigned for a particular operation advise the S-4 on their respective capabilities. These officers may prepare annexes to the administrative/logistics plan when required.

Section VII. EMBARKATION

2701. GENERAL

Embarkation planning embraces all those measures necessary to ensure the orderly assembly and embarkation of personnel and material in a sequence designed to meet the requirements of the plan for landing. Detailed information with respect to preparation of individual ship loading plans and procedures for embarkation of the landing forces are set forth in FMFM 4-2, Amphibious Embarkation. Embarkation planning includes:

a. Determination of BLT shipping requirements.

b. Determination of desired assignment of landing force personnel, equipment, and supplies to each ship.

c. Preparation of detailed landing plans and loading schedules.

d. Consideration of the landing force and naval organization for combat.

2702. ORGANIZATION FOR EMBARKATION

a. General.--The organization for embarkation is a temporary task organization formed for the purpose of simplifying the planning and execution of embarkation at all levels of command. In addition, this special organization facilitates control of all elements of the landing force during embarkation. Upon completion of the embarkation phase, this temporary organization is dissolved.

b. Organization for Landing/Embarkation.--The nucleus of the organization for embarkation is the organization for landing set forth in the operation plan. Additional units or detachments are added to the organization for landing as required to provide coordination during the ship-to-shore movement, to facilitate embarkation, and to utilize shipping space most efficiently.

c. Landing Force.--The landing force organization for embarkation is composed of embarkation groups, embarkation units, embarkation elements, and embarkation teams. Formation of the various embarkation echelons depends upon the degree of decentralization of command control essential to the successful accomplishment of the embarkation phase. The embarkation group and embarkation teams are always formed since these organizations represent the essential ingredients for embarkation, that is, the group as the major troop organization and the team as the smallest subordinate echelon capable of planning and executing embarkation. The embarkation unit is usually formed to bridge the gap between the group and team echelons. The embarkation element is organized when required for additional control in planning and executing embarkation. The embarkation team is the basic troop organization for embarkation. It consists of the troops, supplies, and equipment embarked in a single ship. An embarkation team may be composed solely of or be a grouping of ground combat, combat support, service, or aviation units. Regardless of the size or type of ship in which it is to embark, the embarkation team is organized and loaded with meticulous care. The single ship is the embarkation team's parallel naval echelon.

2703. EMBARKATION OFFICER

a. General.--Embarkation officers are Marine officers trained in the techniques of planning and supervising loading for an amphibious operation. In the troop organization, he is called the embarkation officer. When assigned to a ship or to the staff of a naval organization for this duty, such an officer is called the ship (staff) combat cargo officer. The troop embarkation officer and combat cargo officer advise and assist their respective commanders in planning embarkation and supervising its execution. They maintain liaison from commencement of planning until the completion of unloading. When no combat cargo officer is assigned to a ship or staff, a naval officer of appropriate background and experience will perform the duties normally performed by the combat cargo officer.

b. Battalion Embarkation Officer.--The battalion embarkation officer performs the general duties of a special staff officer under the staff cognizance of the S-4. In addition to those duties and responsibilities listed in FMFM 3-1, Command and Staff Action, he ensures a high degree of readiness within the battalion for possible embarkation. When the battalion reforms into its organization for embarkation, the battalion embarkation officer usually becomes the team embarkation officer if the battalion is embarked as a single team, or becomes the element, unit, or force embarkation officer depending upon the embarkation organization of the battalion. See paragraph 2703c and FMFM 4-2, Amphibious Embarkation, for his responsibilities as team, element, unit, or force embarkation officer.

c. Team Embarkation Officer.--The team embarkation officer is normally one who has had training in the field of embarkation. Although his assignment to such duty may be temporary, from planning until debarking, he should be relieved of other duties. Qualified assistants should be assigned to the team embarkation officer early in the planning phase. The duties of the team embarkation officer usually consist of the following:

(1) General Duties

(a) Acts as direct representative of the embarkation team commander in matters pertaining to troop embarkation and cargo loading.

(b) Effects and maintains liaison between the embarkation team commander and the commanding officer of the ship.

(c) Prepares detailed loading plans for the ship to which his embarkation team is assigned.

(d) Coordinates and supervises execution of the loading plan.

(e) Assists in planning for and executing unloading.

(2) Duties During the Planning and Subsequent Phases.--For a listing of detailed duties, see FMFM 4-2, Amphibious Embarkation.

Section VIII. REHEARSAL AND MOVEMENT TO OBJECTIVE AREA

2801. REHEARSAL

a. General

(1) The rehearsal is defined as the period during which the prospective operation is rehearsed for the purpose of:

(a) Testing adequacy of plans, the timing of detailed operations, and the combat readiness of participating forces.

(b) Ensuring that all echelons are familiar with plans.

(c) Testing communications.

(2) The decision to conduct an integrated rehearsal involving the major elements of the amphibious task force rests with the commander amphibious task force. This decision is made early in the planning phase. In the event that integrated rehearsals with naval elements are prevented, the commander landing force usually will require as a minimum, a staff rehearsal. This is done to check the complete communication system and staff functioning of all assault elements, combat support, and combat service support units. Integrated rehearsals, involving all troops, are desired. Echelonment of units into the objective area or other reasons may dictate that subordinate assault elements (RLT/BLT) conduct independent or separate rehearsals.

b. Modified Rehearsals

(1) Except for most unusual circumstances, while ashore, the BLT can conduct its own rehearsals with certain artifices by simulating the ship-to-shore movement. Careful sélection of the rehearsal area is made to employ the area most resembling the terrain in the actual objective area. Major obstacles to the assault that are known to exist in the objective area are duplicated in the rehearsal area. Other considerations are the time available for rehearsal, security, location of the rehearsal with respect to the objective area, embarkation points, and climatic conditions. An area where live ammunition can be fired is highly desirable.

(2) The rehearsal is conducted with equipment and types of supplies which are to be used in the operation. Essential equipment which cannot be immediately replaced may be excluded from the rehearsal. This is especially true for externally loaded, helicopter-delivered equipment. Plans must provide for the immediate replacement of equipment and supplies expended during the rehearsal.

c. Rehearsal Planning

(1) Because of the difference in terrain, weather conditions, and other factors, the operation plan may require some modifications to meet the conditions in the rehearsal area. A separate rehearsal order is written to meet local conditions. To serve its primary purpose, the rehearsal order provides for realistically testing the principal features of the actual operation. Changes in the actual supporting plans and annexes are kept to a minimum in rehearsals.

(2) A modified rehearsal for a helicopterborne BLT should include the helicopter unit when possible. To test the ship-to-shore movement without the participation of the helicopter unit, the BLT elements are formed into heliteams, scheduled waves, etc., identical to those of the actual landing plan. A location is selected from which the serials can be introduced into the appropriate landing sites as scheduled.

(3) Similarly, the modified rehearsal of the waterborne landing can be effected. To test the ship-to-shore movement without naval participation, troops are formed into boat teams, scheduled waves, etc., identical to the actual landing plan. A line of departure to represent the actual line of departure is established. Boat teams, in scheduled waves and proper formation, move inland to the simulated beach line prior to deployment. Vehicles and equipment are phased into the problem, as appropriate. Provisions are made with external sources to provide radio equipment, operators, and umpires to represent higher echelon and such external elements as naval gunfire direct support ships, close air support, artillery, TAC-LOG group, and others.

(4) The rehearsal plan should be thoroughly understood by key personnel. Security permitting, briefing of all personnel on a rehearsal plan which parallels the operation plan contributes to a more complete understanding of the operation.

d. Critique and Evaluation.--Following the rehearsal, a critique is held to discuss mistakes made in the rehearsal, flaws in the operation plans, and remedial action to be taken. Primary consideration is given to an evaluation of communications, special techniques, and time and space factors.

e. Reembarkation.--After reembarking into amphibious shipping, the following must be accomplished:

(1) Equipment subjected to salt water must be thoroughly cleaned.

(2) Radios are carefully checked.

(3) Loading plans are changed to reflect changes resulting from the rehearsal.

2802. MOVEMENT TO THE OBJECTIVE AREA

a. General

(1) Movement of the BLT to the amphibious objective area includes the passage at sea and the approach and arrival in the objective area. The passage at sea may be made without stop, or it may be interrupted for rehearsals en route, for stops in staging areas for logistics reasons, and for stops at regulating points.

(2) Inasmuch as a combat operation may take place after several weeks aboard ship, it is essential that shipboard organization and routine be efficient. Major requirements of embarked troops while aboard ship include:

(a) Physical Conditioning.--Troops must maintain a high state of physical conditioning to withstand the initial rigors of the amphibious assault and subsequent operations ashore.

(b) Maintenance of Material.--Dampness and salt water require that special care and cleaning be given weapons, ammunition, communication equipment, vehicles, and supplies.

(c) Orientation and Briefing.--As security prevents briefing of troops prior to embarkation, troops are oriented and briefed on the operation. It is imperative that they be thoroughly briefed as to the mission and the BLT plan of attack.

(d) Training.--Although space and facilities may be limited, training, to include technical training, is scheduled and conducted daily.

(e) Recreation and Morale.--Facilities for providing recreation and assisting in maintaining the morale are utilized.

(f) Health and Sanitation.--The health, hygiene, and sanitation of all embarked troops are maintained.

(g) Discipline.--The commanding officer of troops disciplines embarked troops.

(h) Planning.--The staff continues planning.

b. Command Relationships.--It is important that a cooperative attitude be established at each echelon on the part of both ship's officers and crew, and the embarked troops. Troop personnel are made cognizant of the responsibility imposed upon the commanding officer of the ship by U.S. Navy Regulations as well as the responsibilities imposed on the commanding officer of troops.

c. Checklist of Considerations Involving Troop Life and Training Aboard Ship.--(See FMFM 3-2, Amphibious Training, and FMFM 4-2, Amphibious Embarkation.)

Section IX. SHIP-TO-SHORE MOVEMENT

2901. GENERAL

This section discusses the organization and techniques employed in conducting the ship-to-shore movement of the BLT. Marine Corps doctrine places primary emphasis upon the helicopterborne ship-to-shore movement as the means for firmly establishing the landing force ashore. However, landing force support and/or operational requirements ashore often dictate a necessity for waterborne assault in conjunction with the landing of helicopterborne forces. Both helicopterborne and waterborne ship-to-shore movements are discussed herein. The details of planning and executing the ship-to-shore movement are contained in NWP 22-3, Ship-to-Shore Movement; FMFM 3-3, Helicopterborne Operations; and FMFM 9-2, Amphibious Vehicles.

2902. CHARACTERISTICS OF THE SHIP-TO-SHORE MOVEMENT

a. The ship-to-shore movement is that portion of the assault phase of an amphibious operation which includes the deployment of the landing force from the assault shipping to designated landing areas. This movement is designed to ensure the landing of troops, equipment, and supplies at the prescribed times and places and in the formation required by the landing force concept of operations. The movement may be executed by waterborne means (landing ships, landing craft, and assault amphibious vehicles), by helicopter, or by a combination of the two.

b. Although the ship-to-shore movement is only a part of the assault phase, it is the most critical part. The achievement of the requisite coordination and control of the many diversified naval and troop elements participating in the ship-to-shore movement imposes tasks which are unparalleled in scope by any other military operation. Ship-to-shore movement planning reflects to a preeminent degree the requirement for concurrent and parallel planning at all naval and troop echelons. The landing plan, consisting of a variety of documents, must leave no doubt as to what is intended.

c. The ship-to-shore movement commences on order of the commander amphibious task force and is brought to a close when unloading of assault shipping is completed. It may be divided into two periods:

(1) The assault and initial unloading period, which is primarily tactical in character and must be instantly responsive to landing force requirements ashore.

(2) The general unloading period, which is primarily logistic in character and emphasizes speed and volume of unloading operations.

d. The ship-to-shore movement may assume two basic characteristics: the helicopterborne landing of assault forces or their waterborne landing. The threat of nuclear attack or other tactical requirements demand a wide range of force dispositions ashore. Ship-to-shore movements must be patterned to support a variety of landing force schemes of maneuver ranging from several separate, coordinated landings in an open formation to the concentrated landing in a relatively dense formation.

2903. ORGANIZATION

a. Battalion Landing Team.--The BLT is the basic organization that plans for an amphibious operation. The tactical organization for the BLT's assault is the organization for landing.

(1) Other elements of the landing force which are not part of the BLT, but whose usefulness depends upon early initiation of their operations ashore, may be embarked and landed with the BLT. These may be shore party elements, helicopter support team elements, artillery reconnaissance parties, advance elements of higher commands, liaison elements, and others. The BLT commander, or the commanding officer of troops on each ship, assigns boat or helicopter space to these elements.

(2) The reserve BLT is organized similarly to the assault BLT's. Although not organized for the assault of a specific beach or landing zone, the reserve is prepared to land as an assault unit.

b. Terminology.--In order to understand the organization for landing, certain terms must be fully understood:

(1) Boat Space.--The space and weight factor used to determine the capacity of boats, landing craft, and assault amphibious vehicles. With respect to landing craft and assault amphibious vehicles, it is based on the requirements of one man with his individual equipment. He is assumed to weigh 240 pounds and to occupy 13.5 cubic feet of space.

(2) Helicopter Space.--The space and weight factor used to determine the capacity of helicopters. It is based on the requirements of one man with his individual equipment which is assumed to be 240 pounds and 13.5 cubic feet of space.

(3) Boat Team.--The troops and their equipment loaded aboard one landing craft or assault amphibious vehicle for an amphibious assault. The senior member of the boat team is designated as boat team commander and is responsible for his boat team from the period when preparations for debarkation begin to the actual assault of the beach.

(4) Helicopter Team.--Commonly called a heliteam, the troops and their equipment lifted in one helicopter at one time. The senior member of this team is designated heliteam commander and is responsible for the team from the commencement of preparation for debarkation to deplanement in the landing zone.

(5) Wave.--A formation of forces, landing ships, assault amphibious vehicles, or aircraft, required to beach or land about the same time. It can be classified as to type, function, or order as shown: assault wave, boat wave, helicopter wave, numbered wave, on-call wave, and scheduled wave.

(a) Normally, waves land in the same approximate area under tactical control of a single commander.

(b) Every effort should be made to maintain tactical integrity of landing force units within teams and waves, consistent with the scheme of maneuver.

(6) Boat Group.--The basic organization of landing craft. One boat group is organized for each BLT (or equivalent) to be landed in the first trip of landing craft and assault amphibious vehicles.

(a) The boat group commander exercises command of the boat group through the boat wave commanders. During the ship-to-shore movement, the boat wave operates as a unit and is maneuvered by the boat wave commander. Individual waves within the boat group are numbered successively from front to rear as first wave, second wave, etc. The "first wave" is that which leads the formation in its approach to the beach.

(b) Since the landing craft of a single assault amphibious ship are not normally capable of landing the entire BLT, additional landing craft are provided from other ships. Regardless of source of the craft, the boat group functions as a unit until its last wave has landed.

2904. CONTROL OF THE SHIP-TO-SHORE MOVEMENT

a. General.--The commander amphibious task force exercises overall control of the ship-to-shore movement. Separate control organizations are required for the surfaceborne and helicopterborne movements. The waterborne ship-to-shore movement is controlled by a central control officer until general unloading commences, at which time control is decentralized to transport group/unit/element commanders. The helicopterborne ship-to-shore movement is centrally controlled thoughout its duration through the establishment of a helicopter coordination section (HCS) in the amphibious task force flagship and a helicopter direction center (HDC) in each helicopter transport group/unit.

b. Helicopter Control.--The control organization for the helicopterborne ship-to-shore movement is virtually identical for all such movements regardless of size; however, augmentation of certain control agencies is required in large scale, multideck operations. The helicopter control organization includes:

(1) Tactical Air Control Center (TACC).--This agency, embarked in the amphibious task force flagship, is organized and equipped to exercise overall control of all aircraft in the amphibious objective area. Its functions in the helicopterborne ship-to-shore movement are to employ and exercise control over all helicopters, coordinate their movements with supporting arms and other air operations, and maintain current status of helicopters, landing platforms, and the progress of the helicopterborne assault. The tactical air officer controls and coordinates airborne tactical aircraft and helicopter operations with supporting arms and other air operations through the TACC (until control is passed ashore).

(2) Helicopter Coordination Section

(a) In multideck operations, an HCS is formed as an integral part of the TACG. The purpose of the HCS is to provide a central agency for helicopter employment and to coordinate all helicopter operations conducted by subordinate helicopter direction centers. The HCS has two major subdivisions: the helicopter control unit and the helicopter advisory unit. The control unit is concerned with the actual employment and control of the helicopters. The advisory unit is concerned with maintaining current data on the status of helicopters available, fueling requirements, available deck space, helicopter locations, helicopter armament, and the progress of the assault. This data is passed to the control unit to assist in helicopter decisions and actions. As part of the TACC, the HCS has the following functions:

1 Coordinate helicopter movements with supporting arms and air traffic in the objective area.

2 Assign sectors, lanes, landing platforms, and specific point-to-point control to each HDC when not covered (or when changes occur) in the operation order.

3 Monitor the conduct of helicopter operations by each of the HDC's.

4 Maintain current data on helicopters.

5 Maintain current data on all landing platforms.

6 Act on requests for additional helicopter support.

7 Reallocate and direct the movement of helicopters or flights of helicopters when required.

8 Monitor all search and rescue (SAR) operations.

(b) The helicopter coordination section normally is augmented early in the planning phase by personnel from the aviation element of the landing force.

(3) Helicopter Direction Center

(a) The HDC is the primary control agency for the helicopter transport group/unit commander and is normally embarked in his flagship. After control of helicopters has been passed ashore, the HDC assists the direct air support center in controlling helicopters between ships and shore and is prepared to reassume control, as required.

(b) The functions and mission of the HDC are to:

1 Operate under the overall direction of the TACC and under the operational control of the helicopter transport group/unit commander.

2 Control the movement of helicopters operating within its assigned control area in accordance with the operation plan.

3 Control escort aircraft when directed by the TACC.

4 Maintain a continuous radar plot of all aircraft operating within its assigned control area.

5 Receive requests for helicopter employment and implement responses within the limits specified by operation orders or as directed by TACC.

6 Maintain and report to TAGC the status and location of assigned helicopters.

7 Advise TACC on all matters pertaining to the movement of helicopters within its assigned area which may require coordination with supporting arms.

8 Monitor the operation of the helicopter coordinator (airborne).

9 Coordinate changes to the helicopter employment and assault landing table (HEALT) with the helicopter logistics support center (HLSC).

(c) The embarked helicopter unit provides advice to the HDC on employment and availability of the unit's aircraft and crews.

(d) The HDC is manned by personnel from the ship in which the HDC is established.

(4) Helicopter Coordinator (Airborne)(HC(A))

(a) The HC(A) may be delegated specific authority in the amphibious task force and landing force operation plans to exercise command authority over certain facets of the operation. An HC(A) normally is utilized only for the initial assault and is responsible to the helicopter transport group/unit commander. He monitors the actions of the TAC(A) and provides information and recommendations concerning:

1 Weather along the approach and retirement routes and in the landing zones.

2 Enemy operations observed along the approach and retirement routes.

3 Alterations in the helicopter routes.

4 Employment of supporting arms, including TAC(A) activities.

(b) In coordination with the helicopterborne unit commander, he will participate in:

1 Final selection of the landing zone(s).

2 Selection of landing zones for succeeding waves, if required. The HC(A) advises the TACC and HDC on the status of the landing to include any changes made in accordance with the above.

3 The airborne control of helicopters over the objective area during operations may be delegated to the HC(A).

(5) Tactical Air Coordinator (Airborne)

(a) The TAC(A) assists the HDC or HC(A) in directing the maneuver of helicopter waves to designated landing zones and return, and controls airstrikes in the vicinity of the landing zones. He is an experienced aviator who is familiar with all types of aircraft and weaponry. A TAC(A) is designated for each landing zone. Tasks that may be assigned are:

1 Control landing zone preparation.

2 Detect enemy targets so as to neutralize or destroy them.

3 Control close air support missions.

4 Control armed helicopter fire suppression missions.

5 Control artillery and naval gunfire missions when required.

6 Report intelligence information.

7 Mark landing zones and control approach, landing, and departure of the transport helicopters.

8 Other tasks as directed by the controlling HC(A).

(b) If armed escort is provided for the transport helicopters while traversing the approach and retirement lanes, an additional TAC(A) should be assigned with the following tasks:

1 Detection and timely engagement of enemy targets so as to neutralize or destroy them.

2 Diversion of enemy fires from the transport aircraft.

3 Reporting of intelligence information.

(c) In smaller operations when an HC(A) is not required, his functions will be performed by the TAC(A).

(6) Initial Terminal Guidance Teams

(a) Initial terminal guidance teams of force reconnaissance company or reconnaissance battalion, Marine division, have the capability to provide terminal guidance for initial helicopter waves in the landing zones. The teams are composed of personnel who are inserted into the landing zone in advance of the landing zone control team (LZCT). They execute prelanding reconnaissance tasks and establish and operate signal devices for guiding the initial helicopter waves from the initial point to the landing zone. The initial terminal guidance teams may be the first elements to make contact with the enemy. It is of the utmost importance that they promptly report enemy activity which may affect the landing. The use of initial terminal guidance teams may inhibit or prevent the use of landing zone preparation fires. Duties of the team may include:

1 Determining if there are obstructions in the landing zone including radiological hazards.

2 Giving advance notice of enemy position.

3 Establishing homing and guidance devices.

4 Recommending action to be taken by following waves.

(b) If landing zone prep precludes use of initial terminal guidance teams, a homing device may be placed in the zone by an aerial drop immediately after the prep is concluded.

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(7) Flight and Wave Leader Control.--In addition to the foregoing, control responsibilities exercised by the flight and wave leaders include command of all helicopters in the flight or wave. The duties primarily include making radio calls and reports to control agencies at rendezvous, departure, initial, and other designated points and the briefing of pilots and crewmen participating in the flight.

(8) Landing Zone Control Team.--A landing zone control team, a part of the HST, is established ashore to provide terminal control of the helicopterborne ship-to-shore movement. This team is designed to meet the needs of each landing and becomes a part of the terminal guidance element when its functions are required. The primary functions of the landing zone control team involve the use of visual and electronic aids to identify landing zones and sites, the direction of helicopters to landing zones and sites under all flying conditions, and the control of helicopter traffic and landings.

(9) Coordination with Fire Support.--Fire support coordination is provided by the SACC, which is kept informed of helicopter and other aircraft movements by the TACC. One or more airborne tactical air coordinators may function as representatives of the tactical air commander in the objective area. The coordinators provide on-the-scene direction of close support aircraft.

(10) Passage of Control Ashore

(a) While helicopters are engaged in the scheduled ship-to-shore movement, their control normally remains with the commander amphibious task force. Following the scheduled ship-to-shore facilities ashore, control of helicopters may be passed to the commander landing force. Operation orders should include provisions governing the passage of control.

(b) After the passage of overall air control ashore, the afloat control agencies continue to function in a standby status, monitoring air circuits, and prepared to assume control in the event of an emergency ashore.

c. Waterborne Control

(1) General.--The waterborne ship-to-shore movement may be patterned to support various landing formations. Within the range of ship-to-shore movements are those required when:

(a) The waterborne assault force is to launch a concentrated assault on adjoining beaches.

(b) The landing beaches are separated but distances required for effective control are not exceeded.

(c) The landing beaches are separated to the extent that independent, coordinated landings are necessary.

(d) Combinations of the foregoing are required.

(e) Figures 12, 13, and 14 show examples of the various ship-to-shore movements and their controls.

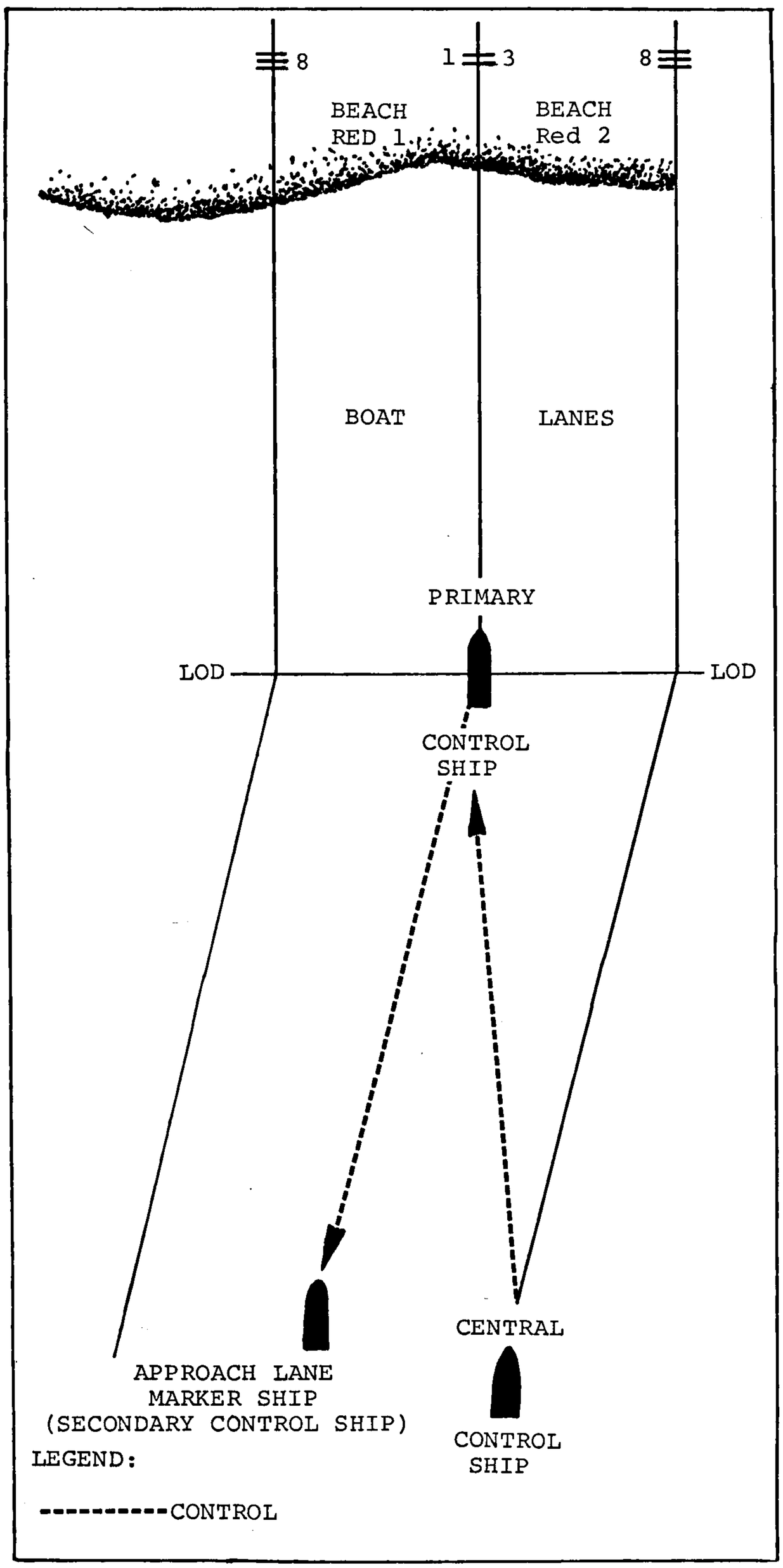


Figure 12.--Control of Concentrated Landing on Adjoining Beaches.

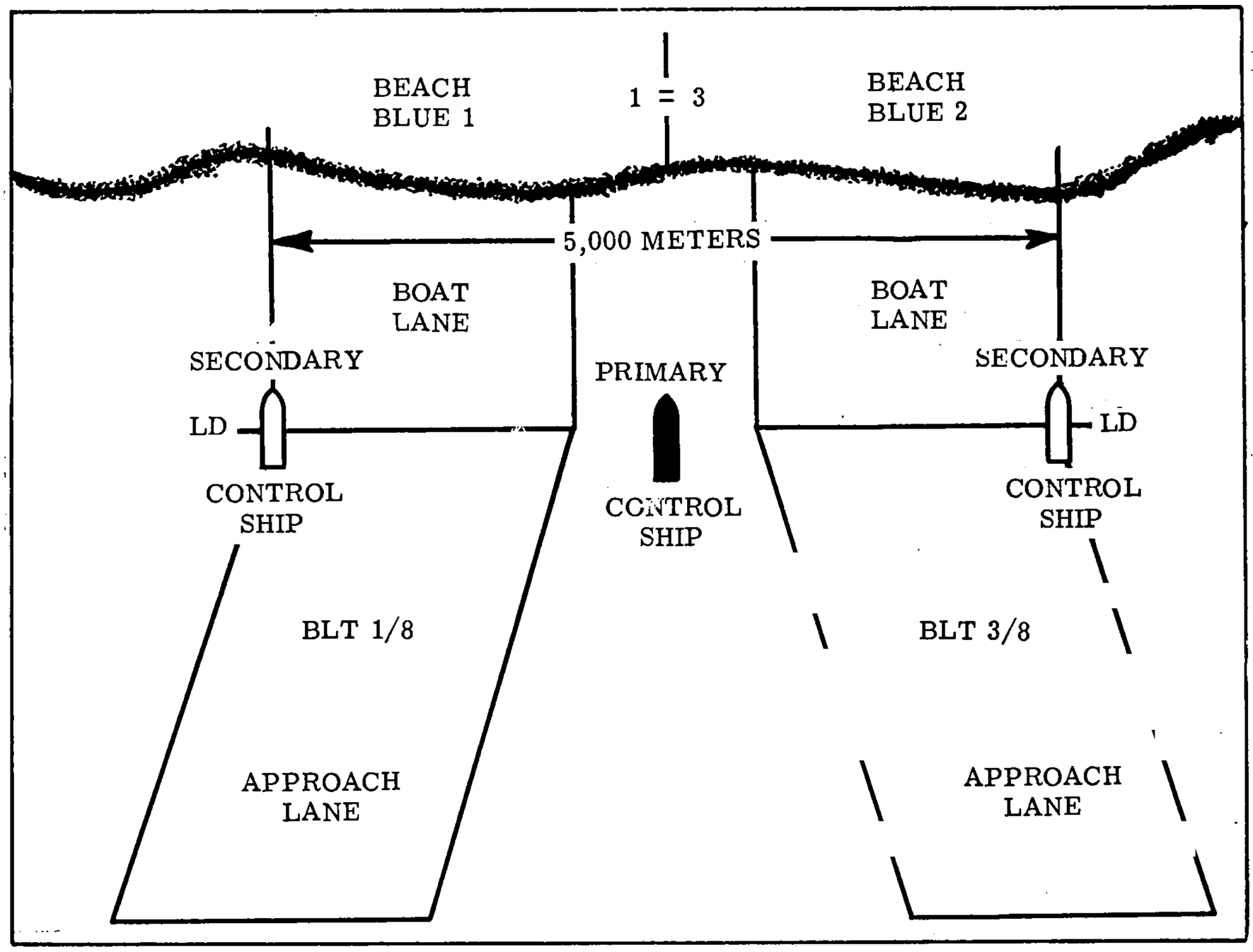


Figure 13.--Control of Separated Landings.

(2) Control Organization.--Control of the waterborne ship-to-shore movement is vested in a Navy control organization, the control group. It is formed to direct, supervise, and control the amphibious vehicles, landing craft, and beaching landing ships in the waterborne ship-to-shore movement. The organization of the control group is based upon the plan for landing and usually parallels the transport organization. Control officers and control ships are provided as follows:

(a) A central control officer is designated by the commander amphibious task force for overall coordination of the waterborne ship-to-shore movement. He is embarked in the central control ship.

(b) A primary control officer is designated for each colored beach. The primary control officer is embarked in a primary control ship and controls the movement of landing craft, assault amphibious vehicles, and landing ships to and from a colored beach.

(c) Secondary control officers may be stationed at each flank of the line of departure for the colored beaches, or at the head of an approach lane when approach lane marker ships are employed.

(d) Approach lane control officers, embarked in approach lane marker ships, are stationed at the seaward end of the approach lane. They control the movement of boat waves between the approach lane marking ships and the line of departure.

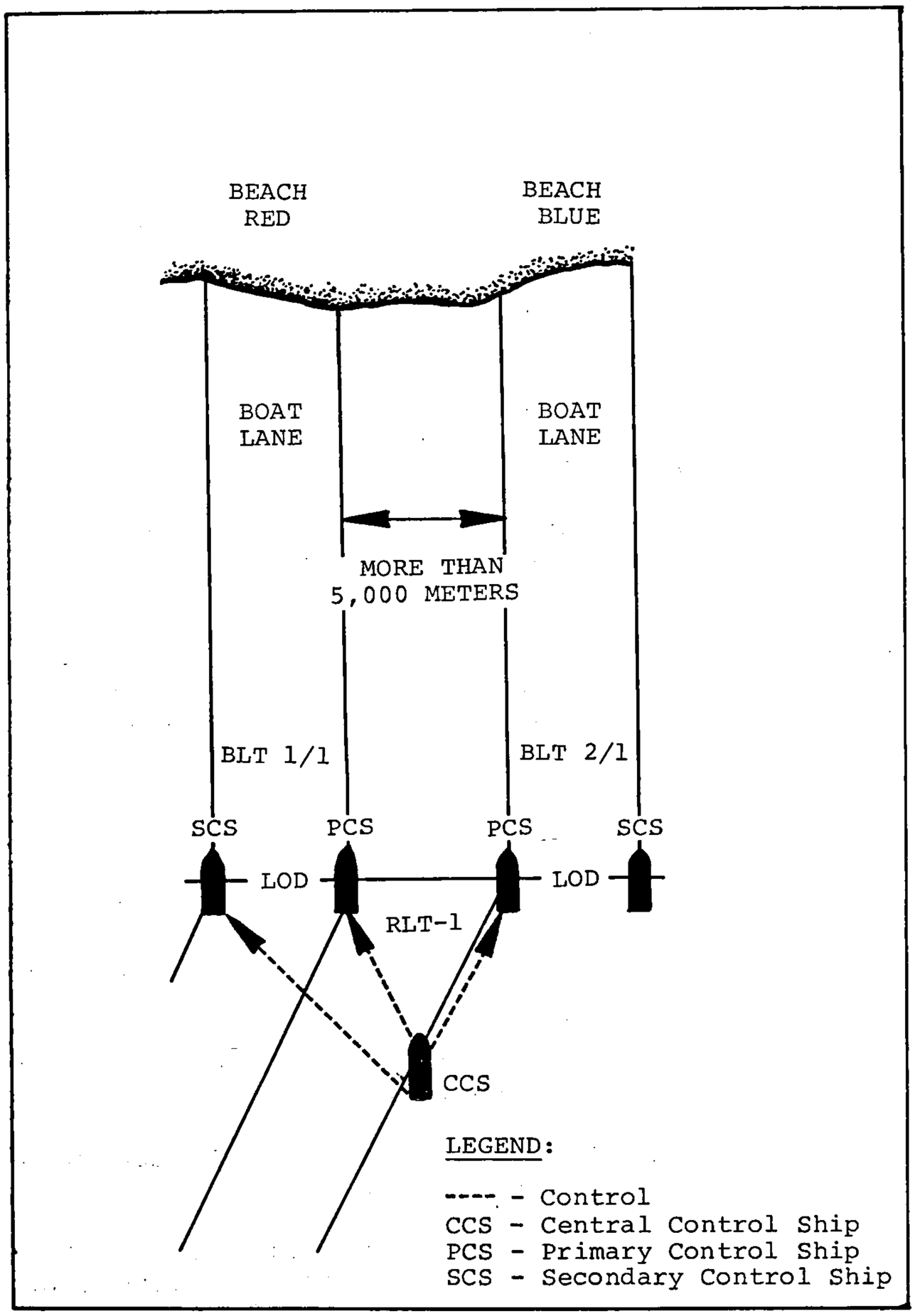


Figure 14.--Control of Widely Separated Landings.

(e) The control group performs the following tasks:

1 Controls the movement of all landing craft between the rendezvous area and the beach.

2 Controls movement of all waterborne assault amphibious vehicles.

3 Marks control points necessary for regulating the movement from ship-to-shore and other designated points.

4 Keeps the commander amphibious task force, and such other commanders as may be designated, informed of the progress of the

movement from ship-to-shore, the landing of various waves, and the visible progress of operations on shore.

5 Relays messages from and to the landing beach.

(f) The boat group commander, as a member of the overall control group, is directly concerned with the control of the ship-to-shore movement of the BLT.

(3) Boat Identification

(a) Each boat team is required to have a boat paddle bearing its number as shown in the landing craft assignment table. Boat paddles are prominently displayed at all times until the line of departure is crossed. LVT's are required to have the port and starboard sides of their turret marked in lieu of boat paddles. The information displayed here will be the same as that displayed on a boat paddle.

(b) Numerals on boat paddles/LVT turret in scheduled waves indicate the wave and position of the boat/assault amphibious vehicle in that wave. Boat paddles in on-call and nonscheduled waves indicate the serial and the position of the boat in the serial. Boat paddles used in free boats are marked with a double zero and the number of the free boat. See figure 15 for an example of boat paddles.

(4) Tactical-Logistical Group

(a) The TAC-LOG group consists of representatives designated by troop commanders to assist Navy control officers aboard control vessels in the ship-to-shore movement of troops, equipment, and supplies. Normally, a BLT TAC-LOG group is not organized. However, when the BLT is to be landed over a separate beach from the RLT, it is mandatory that a TAC-LOG group be formed. The BLT may assign officers to the RLT TAC-LOG group who have an intimate knowledge of the tactical plan, the loading plans of the ships that their respective BLT elements are aboard, and the plan of logistic support. Based upon the desires of the BLT commander, the TAC-LOG group usually consists of the BLT embarkation officer and an officer of the S-3 section.

(b) The TAC-LOG group representatives expedite the landing of personnel, equipment, and supplies in accordance with orders. Specifically, the TAC-LOG group performs the following functions:

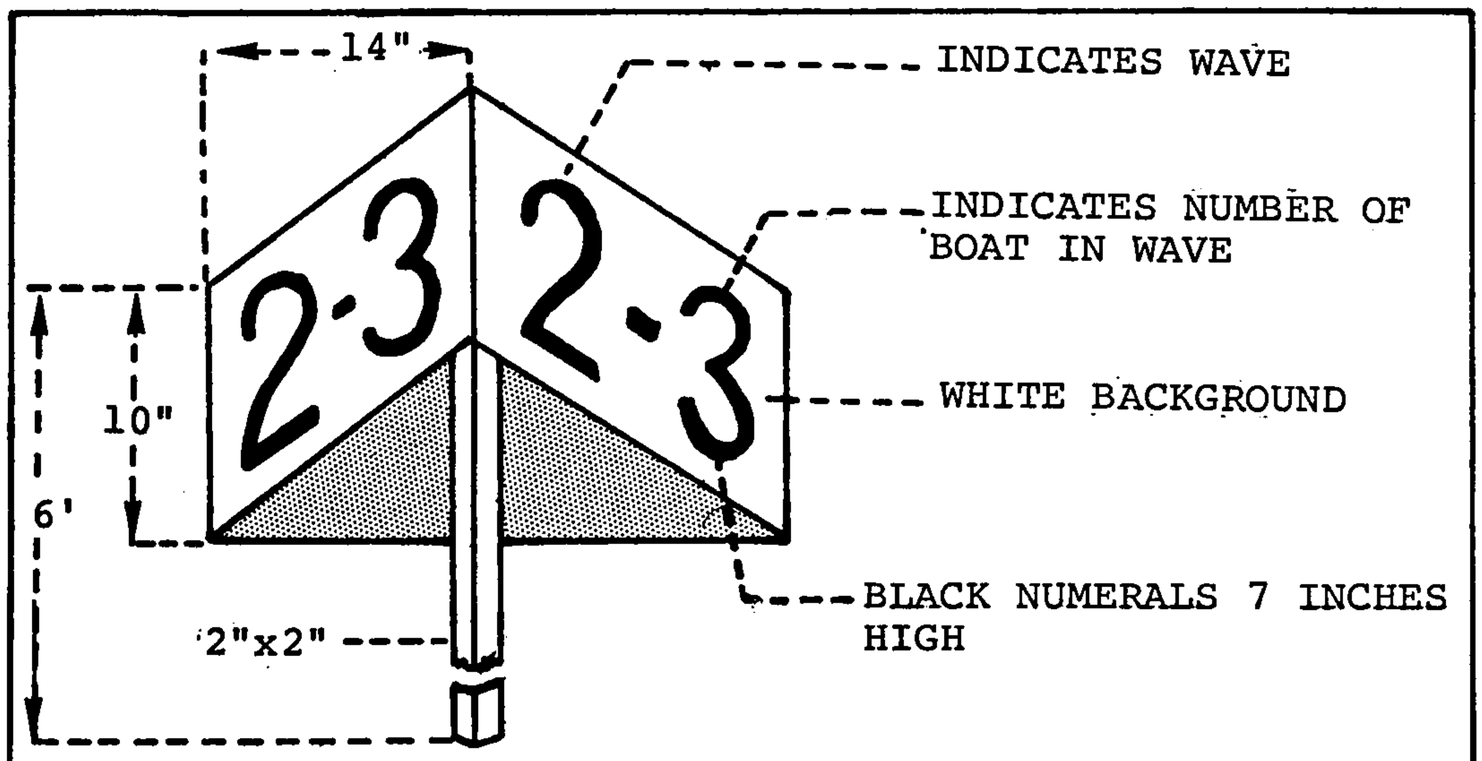
1 Informs the Navy control officer of requests received from the beach for troops, equipment, and supplies.

2 Advises the control officer as to the location of troops, equipment, or supplies requested. If on-call serials are not already boated, he advises as to the number and type of landing craft required.

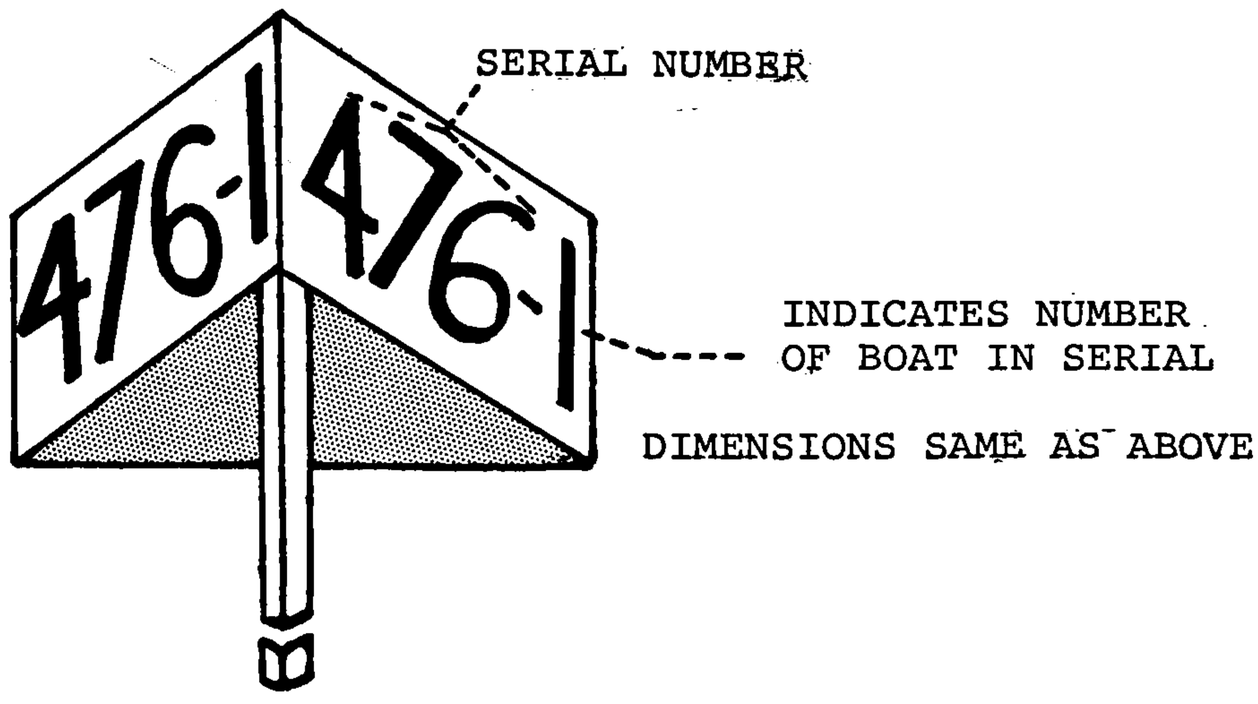
3 Keeps a record of on-call serials that have been requested and also of those that have been ordered to land. This record includes times dispatched and arrival times of each serial at the beach.

4 Advises the Navy control officer as to the priority of landing certain serials.

5 Keeps a record of ship dispositions and informs the shore party team commander ashore.



BOAT PADDLE USED BY BOAT TEAMS IN SCHEDULED WAVES



BOAT PADDLE USED BY BOAT TEAMS IN ON-CALL AND NONSCHEDULED WAVES

Figure 15.--Example of Boat Paddles.

6 Keeps the BLT commander informed on the progress of the movements of troops and supplies to the beach.

(c) The representatives of the BLT assigned to the RLT TAC-LOG group make a pre-H-hour transfer to the designated control vessel. Initially, they monitor the landing of scheduled waves. Until the shore party team is established ashore, emergency requests are made directly to the TAC-LOG group. The BLT representatives in the TAC-LOG group usually remain aboard the control vessel until the commencement of general unloading.

(d) The following documents are made available and each must be clearly understood by the TAC-LOG group:

1 Operation order.

2 Administrative/logistics order (annex).

3 BLT embarkation order, with organization for embarkation and assignment of units to shipping.

4 Loading plan(s) of ship(s) carrying elements of the BLT.

5 Alternate operation and administrative/logistics plans.

(e) There are no communication facilities specifically established for TAC-LOG use. TAC-LOG groups rely on communication means established for other purposes. Primarily, TAC-LOG groups use nets established by the shore party units on the beaches over which the landing force elements are landing, or the nets established by the HST. Prior to the time the shore party or HST nets are established, or when they are not available, TAC-LOG groups use RLT/BLT tactical or command nets to communicate with the supported unit commander. Communication equipment and personnel for the TAC-LOG group are normally furnished by the supported parent unit; however, they may be furnished by the shore party unit, the ship upon which the TAC-LOG group is located, or a combination of these sources. However, responsibility for providing the TAC-LOG representatives with the necessary equipment and personnel rests with the commander organizing the TAC-LOG.

(f) The TAC-LOG group concerned with helicopterborne ship-to-shore movement is organized in the same manner as for the waterborne movement and functions similarly. It is normally located on an LPH at the HDC controlling the helicopterborne movement. When the RLT TAC-LOG is functioning at the HDC, a BLT TAC-LOG is normally not formed, but BLT representatives are provided to the RLT TAC-LOG.

2905. LANDING CATEGORIES

a. Troops and Supplies.--The movement of troops and supplies in the ship-to-shore movement is arranged in the following five categories:

(1) Scheduled Waves.--Scheduled waves may consist of landing craft, assault amphibious vehicles, or helicopters loaded with those assault elements of the landing force, together with their initial combat supplies, whose time and place of landing are predetermined. After scheduled waves cross the line of departure, the landing proceeds without change, except in emergency. Waves commence landing at H-hour and continue for a relatively short period of time. Helicopterborne waves are landed in accordance with the helicopter employment and assault landing table.

(2) On-Call Waves

(a) On-call waves are elements of the landing force with their initial combat supplies, whose need ashore at an early hour is anticipated, but whose time and place of landing cannot be predicted accurately and is not specified. These elements are essentially those which are subject to an immediate emergency call.

(b) Helicopterborne on-call waves are held in readiness aboard ship.

(c) In waterborne landings, on-call waves are boated at or near H-hour and held in instant readiness to respond to an order to land. When the situation permits, landing ships, as well as boats and assault amphibious vehicles, are employed to land on-call waves.

(d) The urgency that may attend the landing of an on-call wave may disrupt the landing of other on-call waves; however, scheduled waves are disrupted only in an emergency. To preserve the high priority status of such units, their number is kept to the minimum consistent with the requirements of the landing force.

(e) The helicopter employment and assault landing table may list the helicopter on-call waves below the scheduled waves. Waterborne on-call landing waves are listed in the assault schedule below the scheduled waves.

(3) Nonscheduled Units.--Nonscheduled units are the remaining units of the landing force equipped with their initial combat supplies, which are expected to land prior to the commencement of general unloading. This category usually includes most of the combat and combat service support elements not included in scheduled or on-call waves. The landing of nonscheduled units may be interrupted to permit the landing of floating dump supplies or other selected units, supplies, and equipment. The anticipated sequence of landing is determined during the planning phase and is shown in the landing sequence table. The landing sequence table serves as the basis for the landing of nonscheduled units primarily by waterborne means. The landing sequence of nonscheduled units and equipment to be landed by helicopter is shown in the helicopter employment and assault landing table.

(4) Floating Dumps.--(See par. 2606.)

(5) Landing Force Supplies.--(See par. 2606.)

b. Free Boats.--Free boats are landing craft or assault amphibious vehicles reserved for the landing of a particular element whose time of landing is not scheduled. They remain in readiness until requested and are boated and move to the beach on request of the element embarked. Free boats are numbered consecutively 00-1, 00-2, etc., for each beach over which they are to be landed. Free boats are generally assigned to the BLT commanding officer and executive officer groups. Free boats restrict the utilization of a landing means until released and should be kept to a minimum.

c. Command and Control (C&C) Helicopter.--The commander of the helicopterborne unit may be provided with a C&C helicopter so he can observe the activities and progress of his unit. The C&C helicopter is usually an observation type with excellent visibility. Some communication equipment is available in this type of helicopter. Additional equipment may be provided from ground unit assets.

(1) The C&C helicopter has the purpose of providing the commander of the helicopterborne unit with a means to:

(a) Observe initial and subsequent helicopter wave landings in one or more landing zones.

(b) Establish contact with subordinate unit commanders during attack on initial objectives.

(c) Initiate timely landing zone changes based on first-hand knowledge.

(d) Maintain communications with the helicopter coordinator (airborne).

(2) If possible, the C&C helicopter is piloted by the commander of the transport helicopters involved. This procedure permits immediate coordination of actions and/or recommendations between the senior troop unit and helicopter unit commanders.

(3) The C&C helicopter will return to normal assignment when the helicopterborne unit has been landed or when released by the senior commander of the helicopterborne unit.

2906. SERIAL NUMBERS

a. A serial number is an arbitrary number assigned to each unit or grouping including its equipment, which is embarked entirely in one ship, is to be landed as a unit on one beach or helicopter landing zone, and is to be landed at approximately the same time. They are a simple means of identifying troop elements and equipment. All troop and naval elements to be landed prior to commencement of general unloading are assigned serial numbers. The number assigned is not intended to infer a sequence of landing, but serves only to identify the element contained in the serial.

b. Early in planning, a block of consecutive serial numbers is allocated to the BLT. The BLT, in turn, allocates a consecutive portion of its block to each subordinate unit.

c. When the concept of operations ashore and embarkation plans have been determined, the BLT assigns, from its allocated block, serial numbers to its units, parts of units, or groupings being landed. While the allocation of blocks of serial numbers to units is based on the administrative organization, the actual assignment of individual serial numbers is based on the organization for landing. The number of landing craft or assault amphibious vehicles in a serial may be one or several. Assignment of one serial per landing craft or assault amphibious vehicle will allow greater flexibility should the landing plan be modified.

2907. LANDING PLAN

a. General.--The landing plan is published as the landing plan appendix to the amphibious operations annex to the BLT operation plan. It is essentially a compilation of the documents and forms required to move units, supplies, and equipment ashore at the proper place and time, and in the prescribed formation. The documents and forms are prepared as enclosures to the landing plan. The landing plan is a compendium which outlines the ship-to-shore movement and is the source of information from which the ship-to-shore movement is conducted and controlled. Since the landing documents for a helicopterborne assault differ in both form and content from those of the waterborne assault, a BLT combining these two techniques develops a landing plan containing both types of documents.

b. Landing Formation

(1) The landing formation for the assault elements of the BLT is based upon the following:

(a) The scheme of maneuver ashore.

(b) The desired buildup of combat forces ashore.

(c) Supporting fires.

(d) The availability of landing means.

(e) Timing.

(f) The configuration and size of the landing zone or beach.

(g) Visibility conditions.

(2) Landing means are rated in capacity as to the number of boat spaces or heliteam spaces available. Additionally, a maximum allowable weight carrying capacity is specified for helicopters. Allowances must be made for the additional space or weight of bulky equipment, weapons, and vehicles. The required number of watercraft or helicopters to lift each wave can be computed from equating the weight, heliteam space, or boat space requirements of the wave to the type craft available.

(3) The landing formation is the basis for preparing the organization for landing. In the event of a shortfall in the availability of landing means, the organization is rendered compatible with existing means while reserving the tactical integrity of subordinate units.

(4) In the assault landing of a helicopterborne BLT, the flight formations are prescribed by the helicopter unit commander and are selected to ensure landing assault elements in the appropriate landing sites within the landing zone.

(5) In the waterborne assault, landing craft and assault amphibious vehicle formations vary. A wave may be landed in column, wedge, or line abreast formation. Assault amphibious vehicles are launched from the ship in the numerical sequence which best facilitates forming the wave in column for subsequent deployment in the appropriate formation at the line of departure.

c. Landing Documents for Helicopterborne Assault.--In the helicopterborne amphibious operation, landing documents are prepared to ensure optimum distribution of helicopter assets and to provide for landing units and equipment in accordance with the plan. The landing documents are a major source of information through which the helicopterborne ship-to-shore movement is controlled. This paragraph addresses the document and forms prepared in planning a formalized helicopterborne ship-to-shore movement. The possible requirement for a more spontaneous landing should not be neglected. It is a preconceived plan for landing units or portions of units in support of the overall tactical plan without preparation of formal landing documents and is adopted when speed is of the essence. The landing of reserve units may often be spontaneous and responsive to the tactical situation ashore.

HELICOPTER UNIT AND DESIGNATION	NUMBER OF A/C	A/C AVAILABLE NUMBER		MODEL	CARRIER	DECK LAUNCH CAPACITY	TENTATIVE LOAD PER A/C		REMARKS
		FIRST TRIP 90%	OTHER TRIPS 75%				TROOPS	CARGO	
HMM-163 (Ridgerunner)	21	18	14	CH-46	LPH-1	7	*18	4,000	All external lift capable.
HMH-463 (Bomber)	24	22	18	CH-53	LPH-2	5	35	8,000	Equipped with aircraft recovery slings.
HML-267	24	22	18	UH-1E	LPH-3	10	4	1,000	10 armed.

* Flight radius 30 n. m.

Figure 16.--Helicopter Availability Table.

(1) Helicopter Availability Table.--This document is a tabulation of the number and types of helicopters available for a proposed helicopter operation. It lists the helicopter units, the number of helicopters available for the first and subsequent lifts, and the ships or landing zones from which the helicopters will operate. This table is prepared by the senior helicopter unit early in the planning phase, and is used as a basis upon which to determine the employment of available helicopters. Figure 16 is an example of a helicopter availability table.

(2) Helicopter Employment and Assault Landing Table.--This document includes the detailed plans for the movement of helicopterborne troops, equipment, and supplies. It is the landing timetable for the helicopterborne movement. This table provides the basis for the helicopter unit's flight schedules and is used by the appropriate air control agency

Wave	Helicopter Unit & Flight No.	No./Model A/C	From	To	Time			Destination		Troop Unit, Equipment, and Serial External Loads
			Carrier (Origin)	Report (Load)	Load	Launch	Land	LZ	LS	
1st	ANVIL-1	10 CH46D/F	LPH-5	LPH-5	Pre-load	H-26	H-Hr	Code Name	Color	Co A(-)(Rein) Ser 101
2d	ANVIL-2	12 CH46D/F	LPH-5	LPH-5	H-18	H-16	H+5	Code Name	Color	Co B(-)(Rein) Ser 105
3d	ANVIL-3	9 CH46D/F	LPH-5	LPH-5	H+21	H+25	H+46	Code Name	Color	Elms Co A Ser 102 Elms Co C Ser 110
4th	ANVIL-4	5 CH46D/F	LPH-5	LPH-5	H+26	H+30	H+51	Code Name	Color	Elms Co B Ser 106 Co C(-) Ser 111

Figure 17.--Helicopter Employment and Assault Landing Table (BLT).

as the basis for controlling the execution of the helicopter movement. It is prepared by the helicopterborne unit commander and the helicopter unit commander. Each successive echelon makes necessary changes and consolidates the tables. The final approving authority consolidates all tables and prepares the final consolidated tables. Upon publication, lower echelons publish extracts pertaining to their units. Figure 17 is an example of the helicopter employment and assault landing table.

(3) Heliteam Wave and Serial Assignment Table.--This document shows the tactical units, equipment, and supplies that are loaded into each helicopter in the assault waves. It identifies each heliteam (supplies and equipment) with its assigned serial number, and the serial number with the flight and wave. The weights section serves as a check to ensure that

WAVE	HELITEAM FLIGHT SERIAL	PERSONNEL		SUPPLIES & EQUIPMENT	WEIGHT (4,000# MAX)		
		TROOP UNIT	NO.		PERS	EQUIP	TOTAL
1	ANVIL 101 100-1	1st Sqd, 1st Plat, Co A Aslt Tm, 1st Aslt Sqd, Wpns Plat	14 3 17	1 MPFW (12#) 2 Rkt Clips (30#)	3,825	42	3,867
	ANVIL 102 100-2	2d Sqd, 1st Plat, Co A Aslt Tm, 1st Aslt Sqd, Wpns Plat	14 3 17	1 MPFW (12#) 2 Rkt Clips (30#)	3,825	42	3,867
	ANVIL 103 100-3	Plat Comdr, 1st Plat, Co A Msgr 3d Sqd (-) Corpsman Sqd Ldr, 1st MG Sqd MG Tm, 1st MG Sqd, Wpns Plat	1-0 1 9 1 1 4 1-16	1 AN/PRC-75 (26#) 1 MG (24#)	3,825	130	3,955
	ANVIL 104 100-4	Elms 3d Sqd, 1st Plat, Co A MG Tm, 1st MG Sqd, Wpns Plat LS Ctl Tm (RED) Plat Sgt, 1st Plat, Co A Msgr Plat Guide, 1st Plat, Co A Corpsman Sqd Ldr, 1st Aslt Sqd, Wpns Plat	5 4 3 1 1 1 1 1 17	1 MG (24#) MG Ammo (80#) 1 AN/PRC-75 (26#)	3,825	130	3,955

NOTE: The heliteam flight serial is as follows:

ANVIL — Helicopter Squadron Radio Call Sign

1, 0, 1 — Wave Number; Heliteam Position in the Wave

1, 0, 0 — Troop Unit Serial Assignment Number

1 — Troop Unit Heliteam Number

Figure 18.--Heliteam Wave and Serial Assignment Table.

maximum helicopter payloads are not exceeded by the troop units. This table is prepared by the helicopterborne unit commander and is submitted through the chain of command for consolidation and final approval. Subordinate units extract and use pertinent information from the final approved tables. Figure 18 is an example of a heliteam wave and serial assignment table.

(4) Helicopter Landing Diagram.--This document portrays graphically lanes to and from landing zones and the helicopter transports. It includes the helicopter transport area, rendezvous points, departure points, penetration control points, control points, initial points, approach and retirement lanes, departure, and initial zones and sites, together with such other details and remarks as are necessary for clarity. This diagram is prepared by the senior helicopter unit commander and submitted through the chain of command to the highest authority concerned for approval and coordination. Figure 19 is an example of a helicopter landing diagram.

d. Landing Documents for Waterborne Assault.--The landing documents prepared by the BLT for a waterborne ship-to-shore movement vary in accordance with the operation. When the BLT is to make a separate landing or is to land sufficiently remote from the parent RLT that RLT control may be difficult, the BLT prepares certain documents normally published by the RLT in more viable control situations. All of the landing documents are discussed as the BLT may operate under the foregoing conditions.

(1) Landing Diagram

(a) General.--The landing diagram is a graphic portrayal of the plan for ship-to-shore movement. It informs the transport commander, boat group commander, boat personnel, and subordinate units of the landing team of the BLT commander's plan for the tactical deployment of the unit for the landing. Normally, the landing formation and the type of landing craft composing the waves are determined by the landing team or unit commander, based on the naval capabilities for supporting the plan. The landing diagram shows the formation of the boat group. A separate diagram is shown for each formation to be employed in each alternate plan. Figure 20 is an example of a landing diagram.

(b) By Whom Prepared.--The landing diagram is prepared by the BLT, or similar unit commander, as an enclosure to the landing plan appendix to the amphibious operations annex. It normally is prepared and promulgated at the same time as the landing craft and assault amphibious vehicle assignment table. Its distribution should permit dissemination to all personnel responsible for controlling the formation of the boat group and its waves during the ship-to-shore movement.

(c) Content and Preparation.--In preparing a landing diagram:

1 The waves are numbered from front to rear.

2 The time of landing of each wave in terms of H-hour is indicated on the diagram.

3 Each landing craft is assigned a boat number corresponding to the number of the embarked boat team. Landing craft within the boat wave are numbered from the center to the flanks of the wave, with the even numbers on the left and odd numbers on the right.

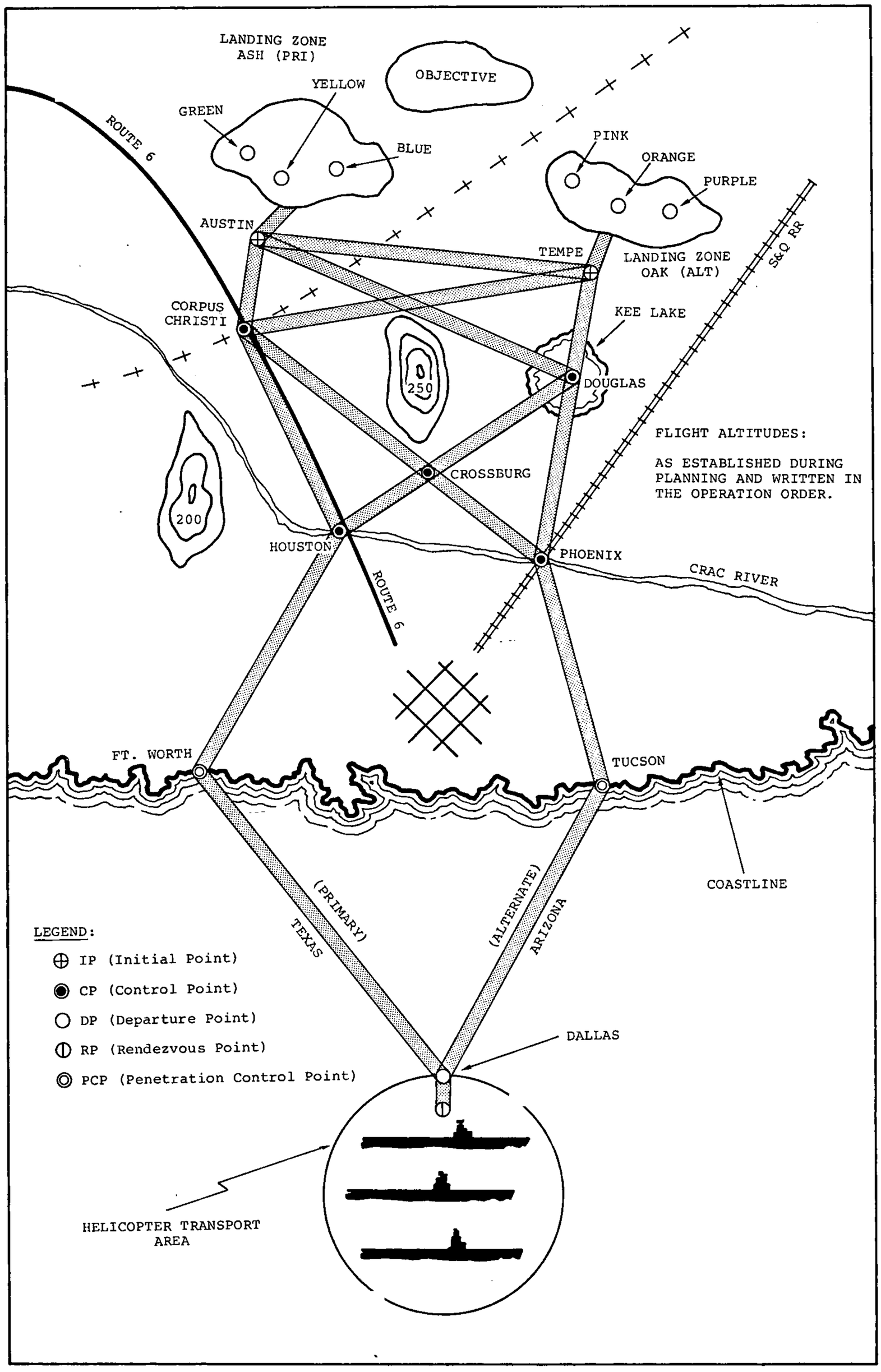


Figure 19.--Example of a Helicopter Landing Diagram.

H-HOUR 0830									Beach RED-1
ASLT PLATS COS A AND B									
WAVE 1	1-1	1-2	1-3	1-4	1-5	1-6	1-7	1-8	1-9	1-10
H-Hour	X*	X	X	X	X	X	X	X	X	X
CO A(-) AND CO B(-)									
WAVE 2	2-1	2-2	2-3	2-4	2-5	2-6	2-7	2-8		
H+6 Min	X*	X	X	X	X	X	X	X		
LEADING PLATS CO C AND 81MM MORT PLAT									
WAVE 3	3-1	3-2	3-3	3-4	3-5	3-6	3-7	3-8		
H+12 Min	X*	X	X	X	X	X	X	X		
CO C(-) AND LEADING PLATS CO D									
WAVE 4	4-1	4-2	4-3	4-4	4-5	4-6	4-7	4-8		
H+18 Min	X*	X	X	X	X	X	X	X		
CO D(-), ARTY RECON PTY 1/12, SP RECON PTY, AND ELMS H&S CO									
WAVE 5	5-1	5-2	5-3	5-4	5-5	5-6	5-7	5-8		
H+24 Min	X*	X	X	X	X	X	X	X		
H&S CO (-)									
WAVE 6	6-4	6-2	6-1	6-3	6-5					
H+30 Min	O	O	O*	O	O					

LEGEND: X ..... LVTP O ..... LCVP
* ..... Troop Wave Commander

Figure 20.--Example of a Landing Diagram.

4 Assault amphibious vehicles are numbered from left to right in each wave within the boat group; i.e., in a BLT landing, with a front of nine assault amphibious vehicles, the first vehicle on the extreme left will be number one, the vehicle on the right will be number nine. Each vehicle is identified by two numbers, the first indicates the wave, the second indicates the vehicle position in the wave. These numbers are separated by a hyphen. Thus, a vehicle numbered 2-3 would be the third vehicle from the left in the second wave.

5 The type of craft is indicated in the diagram. The landing diagram shows the time of H-hour, if it is known; the beach the unit is to land on, if it has been designated; the number of waves that will be used to land the unit; the time each wave is to land; and the formation of the waves for landing.

(2) Approach Schedule

(a) General.--In an amphibious operation, a schedule is prepared by the transport commander in coordination with the battalion landing team commander for the movement of each scheduled wave of the boat group from

WAVE	LEAVE RENDEZVOUS AREA	LEAVE LINE OF DEPARTURE	LAND
1	H-27 minutes	H-15 minutes	H-hour
2	H-20 minutes	H-8 minutes	H+7 minutes
3	H-13 minutes	H-1 minutes	H+14 minutes
4	H-6 minutes	H+6 minute	H+21 minutes
5	H+1 minutes	H+13 minutes	H+28 minutes
6	H+8 minute	H+20 minutes	H+35 minutes

Course from rendezvous area to line of departure: 040°T, 035° MAG.
Course from line of departure to beach: 355°T, 350° MAG.
Boat group commander: Lt WAVE, USN.
Assistant boat group commander: Lt(jg) HATCH, USN.
Primary control officer: LCdr BEAN, USN, embarked in LPR 89.

Figure 21.--Example of an Approach Schedule.

the rendezvous area to the line of departure and thence to the assigned beach so that the landing of each wave will be made at the prescribed time. The time of departure or arrival of a wave is expressed as H-hour plus or minus so many minutes. The schedule is planned so that the assault waves will arrive at the beach at the prescribed time.

(b) By Whom Prepared.--The approach schedule is prepared by the commanding officer of a naval transport organization embarking an assault BLT, with the advice and assistance of the BLT commander. All approach schedules are submitted to higher headquarters for coordination and approval. The commander amphibious task force, in coordination with the commander landing force, makes any necessary modifications to coordinate the overall ship-to-shore movement.

(c) Content and Preparation.--The approach schedule shows the scheduled time of H-hour; the beaches; the wave numbers; the courses the landing craft follow; the names of boat group commanders, assistant boat group commanders, and primary control officer; the number of the vessel in which the control officer is embarked; and other necessary information. Figure 21 is an example of an approach schedule.

(3) Landing Craft and Assault Amphibious Vehicle Assignment Table.--The landing craft and assault amphibious vehicle assignment table is a table showing the assignment of personnel and materiel to each landing craft and assault amphibious vehicle and the assignment of the landing craft and assault amphibious vehicles to waves for the ship-to-shore movement. It may also include instructions for the assignment of floating dump supplies to landing craft or assault amphibious vehicles. This table, together with the debarkation schedule, furnishes the ship's commanding officer with

258-888 O - 78 - 9

CRAFT	PERSONNEL	BOAT SPACES	FORMATION
LVTP 1-1	Plat Comdr, 1st Plat, Co E	1	Column 1-1
	Msgr, 1st Plat, Co E	1	x
	3d Sqd, 1st Plat, Co E	13	1-2
	Sqd Ldr, 1st MG Sqd, Wpns Plat, Co E	1	x
	1st Tm, 1st MG Sqd, Wpns Plat, Co E	4	1-3
	Corpsman	1	x
		21	1-4
LVTP 1-2	Plat Sgt, 1st Plat, Co E	1	x
	Plat Guide, 1st Plat, Co E	1	1-5
	2d Sqd, 1st Plat, Co E	13	x
	2d Tm, 1st MG Sqd, Wpns Plat, Co E	4	1-6
	Corpsman	1	x
		20	1-7
			x
LVTP 1-10	XO, Co F	1	1-10
	Gy Sgt, Co F	1	x
	Plat Sgt, 2d Plat, Co F	1	
	Plat Guide, 2d Plat, Co F	1	
	Msgr, 2d Plat, Co F	1	
	1st Sqd, 2d Plat, Co F	13	
	Corpsman	1	
		19	

Figure 22.--Example of a Landing Craft and Assault Amphibious Vehicle Assignment Table.

information for debarkation of troops and floating dump supplies. It is distributed to personnel responsible for the boating of units and supplies. The landing craft and assault amphibious vehicle assignment table is prepared by the BLT or similar unit commander. Figure 22 is an example of a landing craft and assault amphibious vehicle assignment table. Considerations in the preparation of the table include:

(a) Allowances of boat spaces for troop equipment such as mortars, machineguns, vehicles, and heavy equipment. Since this equipment takes boat spaces, a smaller number of personnel are embarked in craft carrying such equipment. The number of boat spaces the equipment occupies is included in column three of the table.

(b) The retention of tactical unity required by the tactical plan. Units are landed in proper tactical formations. For example, a rifle squad with its equipment takes its place in the wave formation in proper relation to the other squads of the platoon. Similarly nonscheduled units are also boated tactically.

(c) When assault units only are involved:

1 Headquarters units and any attached or supporting troops, such as forward observers, naval gunfire spotting team observers, and communication personnel, are assigned to the craft carrying the rifle company to which they are attached or which they directly support. If such units are assigned separate craft, these craft are given positions in waves which facilitate small unit employment on beaching. A wave may be organized of headquarters units, mortar sections, and antitank weapons.

2 The risk of heavy losses in command echelons is reduced by distributing elements of command and liaison personnel among two or more landing craft. For example, the BLT commander with a skeleton headquarters group is boated in a free boat; the executive officer with another skeleton group is boated in another craft. Each group is capable of commanding and controlling the BLT. Similarly, the risk of a crippling loss to an entire supporting section is reduced by distributing it among several craft. For example, personnel of a communication platoon are boated in several landing craft.

3 The priority of assignment of craft is to scheduled and on-call elements.

(4) Serial Assignment Table.--A serial assignment table contains the listing of identifying serial numbers for all units except floating dumps to be landed prior to general unloading. The list is prepared in numerical order of the serial numbers, and provides a ready reference for information on the composition and landing requirements of each unit to which a number is assigned. (See fig. 23.)

(a) Allocation and Assignment of Numbers.--Early in the planning stage, the commander landing force allocates a block of consecutive serial numbers, on the basis of administrative organization, to each landing force unit and naval element to be landed. Allocation begins at the highest echelon, and thereafter, each unit allocates a consecutive portion of its

SERIAL NO.	UNIT	PERS	MATERIAL EQUIPMENT VEHICLES	CRAFT NUMBER TYPE	SHIP	REMARKS
101	Aslt Plats, Co A (Rein)	104	Normal Combat	5-LVTP	LST___	1st Wave Beach RED 1
102	Co A(_)(Rein)	91	4 Truck, ¼T, Platform	4-LVTP	LST___	2d Wave Beach RED 1
105	Aslt Plats, Co B (Rein)	142	Normal Combat	5-LVTP	LST___	1st Wave Beach RED 1
106	Co B(-)(Rein)	95	4 Truck, ¼T, Platform	4-LVTP	LST___	2d Wave Beach RED 1

Figure 23.--Serial Assignment Table.

block to its subordinate units. Allocation continues until each element within the landing force has a block of consecutive numbers for assignment to its subordinate and attached elements. When the landing and embarkation plans have been determined, each planning echelon assigns, from its allocated block, serial numbers to its units, parts of units, or groupings. It is important to note that while allocation of blocks of serial numbers to units is based on the administrative organization, the actual assignment of individual serial numbers is based on the organization for landing. The method of assignment is not dependent upon the priority or the estimated sequence of landing nonscheduled units.

(b) Preparation of Serial Assignment Table.--After each subordinate unit has prepared its serial assignment table from the block of numbers allocated to it, the table is forwarded to the next higher echelon, where it is checked and consolidated with other serial assignment tables. The tables are then forwarded to landing force headquarters where the landing force serial assignment table is prepared. Subordinate units are supplied with pertinent extracts from this table, which is issued as a part of the landing force landing plan. Some of the information contained in the serial assignment table is duplicated in the landing sequence table. This latter table, however, lists only those serials which are to be landed as nonscheduled units in the anticipated order of landing rather than in numerical sequence. The arrangement of these tables is determined by the purpose for which they are intended.

(5) Landing Sequence Table.--The landing sequence table is a document which incorporates the detailed plans for the ship-to-shore movement of nonscheduled units. It presents a complete picture of the estimated sequence of landing nonscheduled units. It is used by landing force and naval agencies as the principal document in executing and controlling

UNIT	ELEMENT	SERIAL NO.	CARRIER NO.	TYPE	SHIP	BEACH	REMARKS
1st&2dPlat ACo2dTkBn (FMF)		905	3	LCU	LSD-1	RED	
ACo(-) 2dTkBn (FMF)		906	3	LCU	LSD-2	RED	
1st&2dPlat BCo2dTkBn		907	3	LCU	LSD-6	BLUE	
BCo(-) 2dTkBn		908	3	LCU	LSD-7	BLUE	
1/10	ABtry BBtry CBtry HqBtry DBtry	1013 1014 1015 1016 1023	8 8 8 6 8	LVTP LVTP LVTP LCVP LVTP	LST-1153 LST-1153 LST-1154 LPA-21 LST-1157	RED RED RED RED BLUE	
DetHqBn		401	10	LCVP	LPA-236	BLUE	
ACo(-) 2dCbtEngrBn		105	5	LCVP	LPA-22	RED	

Figure 24.--Example of a Landing Sequence Table.

the movement of nonscheduled units. The completed table forms the basis for embarkation and loading plans of the units concerned. Preparation of the table necessarily follows the completion of that portion of the landing craft and amphibious vehicle assignment table which applies to nonscheduled units. See figure 24 for an example of a landing sequence table.

(a) A landing sequence table is prepared by the highest landing force echelon and issued as part of the landing plan annex to their operation plan. Subordinate commanders extract pertinent parts of the table for their use.

(b) Units should be listed in the order that they will be landed. If suitable beaching areas for landing ships are limited, it may be desirable to prepare a separate landing sequence table for units embarked in landing ships which are to be beached for unloading.

(6) Assault Schedule.--The assault schedule (see fig. 25) shows the beach, hour, and priorities of landing of assault units; and coordinates the movements of landing craft from the transports to the beach in order to execute the scheme of maneuver ashore. The formation and the composition of waves of the BLT are determined by the BLT commanders and forwarded to the RLT for consolidation. These, in turn, are submitted to division headquarters for consolidation, preparation, and publication. The first column lists the wave number of each scheduled wave. The second column lists the time of landing or the time of reporting to the line of departure. The succeeding columns (the number corresponds to the number of beaches over which the unit which is preparing the form will land) show the beaches and

BEACH		RED-1			RED-2
WAVE	TIME	CRAFT/VEH SERIAL	UNIT	CRAFT/VEH SERIAL	UNI
1	H-Hour	10 LVTP 1426, 1429	Aslt Plats, Co A and Co B MC Plat(-), 3d Aslt Amph Bn		
2	H+6 Min	8 LVTP 1427, 1429	Co A(-) and Co B(-)		
3	H+12 Min	8 LVTP 1430	Leading Plats, Co C, 81mm Mort Plat		
4	H+18 Min	8 LVTP 1431	Co C(-) and Leading Plats, Co D		
5	H+24 Min	8 LVTP 1432	Co D(-), Arty Recon Pty, 1/12, SP Recon Pty, Elms H&S Co		
6	H+30 Min	5 LCVP 1433, 1434	H&S Co(-)		

Figure 25.--Example of an Assault Schedule.

the units making or directly supporting the assault on each beach. On line with the wave number and time of landing, and under the designated beaches, are listed the number and type of landing ships, landing craft, or assault amphibious vehicles, and serial numbers of the units comprising the waves. For the on-call waves, the wave number is omitted and the time shown is that for reporting to the line of departure or other control point.

(7) Debarkation Schedule.--(See par. 2908.)

2908. DEBARKATION

a. General.--Debarkation procedures vary, consistent with the nature of the ship-to-shore movement to be conducted, the ship from which debarkation is to be effected, and the type of craft used. Debarkation for helicopterborne units involves enplanement in helicopters on flight decks. For waterborne forces, it may involve debarkation via landing craft or assault amphibious vehicles. In any case, drills should be conducted during the rehearsal and movement phase to familiarize heliteams or boat teams with assembly areas, routes, and procedures. At least one drill should be conducted with all man-transported equipment, individual equipment, weapons, and life jackets.

b. Enplanement of Helicopterborne Units.--Enplanement of helicopterborne units is under the overall control of the ship's officers, assisted by the helicopter unit, the helicopterborne unit, and the ship's company personnel. Detailed procedures for enplanement of personnel and the storage and landing of aircraft vary in accordance with the ship's characteristics and procedures established on board. Even among ships of the same class, variations in deck and troop space configurations can be anticipated. General enplanement procedures are as follows:

(1) Troops are initially alerted and assembled in an assembly area located on the hangar deck. Heliteams are organized, passenger manifests prepared, life preservers buckled on, and all personnel readied for enplanement.

(2) From the assembly area, heliteams move to a control point, normally adjacent to the flight deck. It should be large enough to accommodate sufficient personnel for one complete deck launch. Coordination of troop movements from the assembly area to a control point is an important function of the troop debarkation officer and the combat cargo loading officer.

(3) From the control point, troops are led by flight deck guides (ship's company) to their respective helicopter loading points, where they enplane under the supervision of the helicopter loading supervisor. The guides pick up passenger manifests from the heliteam commanders at the control point.

(4) During enplaning, consideration must be given to the safety of personnel and helicopters. Radio antennas which could become entangled in rotors must be dismantled or extreme caution used. Troop equipment such as weapons, entrenching tools, or other equipment attached to packs may damage the aircraft during the loading, en route, and unloading phases.

(5) Cargo is palletized, spotted, and rigged with slings as necessary.

c. Debarkation of Waterborne Units.--The ship's commanding officer is responsible for preparing the ship for debarkation. Other Navy officers are responsible for forming loaded landing craft and assault amphibious vehicles into waves and their subsequent movement to the beach in accordance with the landing plan. The commanding officer of troops ensures the expeditious debarkation of embarked units. Debarkation time is held to a minimum to reduce the ship's vulnerability to enemy action. Debarkation planning is a joint responsibility.

(1) Debarkation From Transports.--Debarkation from transport type ships normally utilize landing craft. The ship's commanding officer and the BLT commander (commanding officer of the embarked troops) cooperate in the joint preparation of the debarkation schedule.

(a) Debarkation Schedule.--The debarkation schedule (see fig. 26) is a form which lists the debarkation stations, designates the

BOAT	RED 1	WHITE 3	BLUE 5	YELLOW 7	GREEN 9
1st	LCVP 2-3 BT 2-3	LCVP 2-5 BT 2-5	LCVP 2-7 BT 2-7	LCVP 2-1 BT 2-1	LCVP 2-9 BT 2-9
2d	LCVP 2-2 BT 2-2	LCVP 2-4 BT 2-4	LCVP 2-6 BT 2-6	LCVP 00-1 BT 00-1	LCVP 2-8 BT 2-8
3d	LCVP 3-3 BT 3-3	LCVP 3-5 BT 3-5	LCVP 3-7 BT 3-7	LCVP 3-1 BT 3-1	LCVP 3-9 BT 3-9
4th	LCVP 3-2 BT 3-2	LCVP 3-4 BT 3-4	LCVP 3-6 BT 3-6	LCVP 4-2 BT 4-2	LCVP 3-8 BT 3-8
5th	LCVP 4-1 BT 4-1	LCVP 4-3 BT 4-3	LCVP 4-5 BT 4-5	LCVP 4-4 BT 4-4	LCVP 5-1 BT 5-1
6th	LCVP 5-2 BT 5-2	LCVP 5-3 BT 5-3	LCVP 5-4 BT 5-4	LCVP 5-5 BT 5-5	LCVP 6-2 BT 6-2
7th	LCVP 6-1 BT 6-1	LCVP 6-3 BT 6-3	LCVP 6-5 BT 6-5	LCVP 6-4 BT 6-4	LCVP 6-6 BT 6-6
8th	LCVP 7-3 BT 7-3	LCVP 7-2 BT 7-2	LCVP 7-1 BT 7-1	LCVP 7-5 BT 7-5	LCVP 7-4 BT 7-4
9th		LCVP 00-2 BT 00-2	LCVP 7-6 BT 7-6		
	RED 2	WHITE 4	BLUE 6	YELLOW 8	GREEN 9
(If sea conditions permit unloading from both sides of the ship, boat teams listed on the 2d, 4th, 6th, and 8th lines debark over port side, even numbered, debarkation stations. Under these circumstances, the columns above are applicable.)					
		HATCH 1	HATCH 2	HATCH 4	
1st		LCM 1 1 TD-9	LCM 3 1 1/2 T 4x4	LCM 5 1 TD-9	
RAIL LOAD					
	WHITE 3 Davit	WHITE 4 Davit	BLUE 5 Davit	BLUE 6 Davit	
	None	None	None	None	

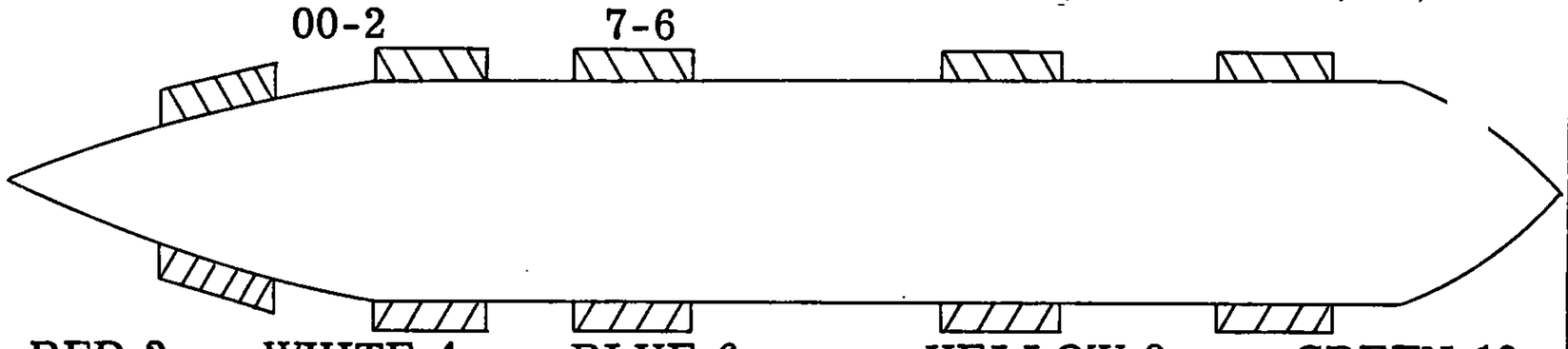
Figure 26.--Example of a Debarkation Schedule.

boat teams to be debarked from each station in order of debarkation, and the sequence by type of the various landing craft to come alongside debarkation stations. The debarkation schedule is prepared jointly by the ship's commanding officer and the commanding officer of troops. It is usually prepared after the troops are aboard the transport. It is distributed to all personnel responsible for control of debarkation. Debarkation schedules are not usually prepared for units landing in assault amphibious vehicles from landing ships. Figure 26 is an example of a debarkation schedule. Instructions in the debarkation schedule are supplemented and clarified by a ship's diagram (see fig. 27).

(b) Preparation for Debarkation.--Preparations for debarkation are begun during the final approach to the transport area. Troop units remain below where boat teams are mustered, final briefings are given, and last-minute checks are made on equipment. The ship's crew will at the same time be preparing debarkation stations and preparing for offloading of landing craft and cargo.

SHIP'S DIAGRAM

HATCH 1 / LCM-1		HATCH 2 / LCM-3		HATCH 4 / LCM-5
RED 1 NET	WHITE 3 NET	BLUE 5 NET	YELLOW 7 NET	GREEN 9 NET
2-3	2-5	2-7	2-1	2-9
*(2-2)	(2-4)	(2-6)	(00-1)	(2-8)
3-3	3-5	3-7	3-1	3-9
(3-2)	(3-4)	(3-6)	(4-2)	(3-8)
4-1	4-3	4-5	4-4	5-1
(5-2)	(5-3)	(5-4)	(5-5)	(6-2)
6-1	6-3	6-5	6-4	6-6
(7-3)	(7-2)	(7-1)	(7-5)	(7-4)
	00-2	7-6		



RED 2 NET	WHITE 4 NET	BLUE 6 NET	YELLOW 8 NET	GREEN 10 NET
HATCH 1		HATCH 2		HATCH 4

* If debarked from both sides of ship, boat teams in parentheses will debark at even numbered debarkation stations.

Figure 27.--Example of a Ship's Diagram.

(c) Execution of Debarkation.--The ship's commanding officer is responsible for calling out boat teams at the proper time or as requested by the landing force. He is also responsible for having the assigned landing craft at the proper debarkation station at the proper time. Once the landing craft is loaded, the ship's officer will direct it to the proper rendezvous area where the naval wave guide officer will take charge. Boat teams report to debarkation stations prepared for immediate debarkation as called. Boat teams debark as described in FMFM 6-4, Marine Rifle Company/Platoon. Normally, the BLT commander embarks in his free boat when the debarkation of BLT elements is about half completed. He officially notifies the ship's captain just before he leaves the ship and confirms the name of the officer designated to remain aboard in command of troops. The BLT executive officer may debark at the same time, earlier, or later, as directed, depending on his assigned responsibilities.

(2) Debarkation from Landing Ships.--Assault elements of the BLT, when debarking from landing ships, are normally loaded in assault amphibious vehicles. The following debarkation procedures may be used:

(a) Assault amphibious vehicle crews man their vehicles approximately 40 minutes prior to the time set for debarkation.

(b) When directed, boat teams move to their assigned vehicles according to previously rehearsed plans. Due to the noise made by the assault amphibious vehicle engines, teams load with a minimum of verbal orders.

(c) When each vehicle is loaded, the boat team commander makes a final check to see that personnel are properly situated and that equipment is properly stowed.

2909. SHIP-TO-SHORE SEQUENCE

a. Helicopterborne

(1) When directed, helicopters comprising the first assault waves are readied and spotted on the flight decks of the assault ships. On signal, crews and troops enplane and the helicopters are launched.

(2) Flights of helicopters rendezvous about their parent ship and proceed as waves to the landing zone or to a previously designated wave rendezvous point where flights from several ships rendezvous to form a single wave.

(3) At the control point, the helicopter wave leader reports his wave to the appropriate air control agency. The wave then proceeds via the designated approach lane to the landing zone. En route, escort aircraft rendezvous with the wave to provide protection from enemy ground fire, aerial cover, and support by fire. Helicopter coordinator(s) (airborne) may also assist in guiding the wave to its destination.

(4) Upon reaching the landing zone, troops deplane and helicopters return to the ships to refuel and to enplane subsequent serials. Subsequent waves follow the same general procedure.

(5) While helicopter waves are en route to and from the landing zone, troops and cargo serials still aboard ship are placed in readiness to be moved.

b. Waterborne

(1) Assault Amphibious Vehicles

(a) Ships launch assault amphibious vehicles from the assault amphibious vehicle launching circle, which is located immediately seaward and to the flank of the line of departure. When possible, the assault amphibious vehicles are launched at such a time as to be able to proceed immediately to and cross the line of departure. In the event the assault amphibious vehicles cannot immediately cross the line of departure, they are assigned maneuver areas to seaward, where they maneuver at slow speeds in a series of flanking movements. (See fig. 28.)

(b) Assault amphibious vehicles land the surface assault elements of the landing force and their equipment in a single lift from assault shipping to inland objectives and conduct mechanized operations ashore. If the scheme of maneuver dictates that the troops and equipment be discharged on the beach and the assault amphibious vehicles return to the ships, they will do so by proceeding to a designated flank of the boat lane and, returning seaward, keeping clear of incoming waves. Vehicles landing subsequent to the first wave must maneuver to keep clear of troops and equipment landed earlier.

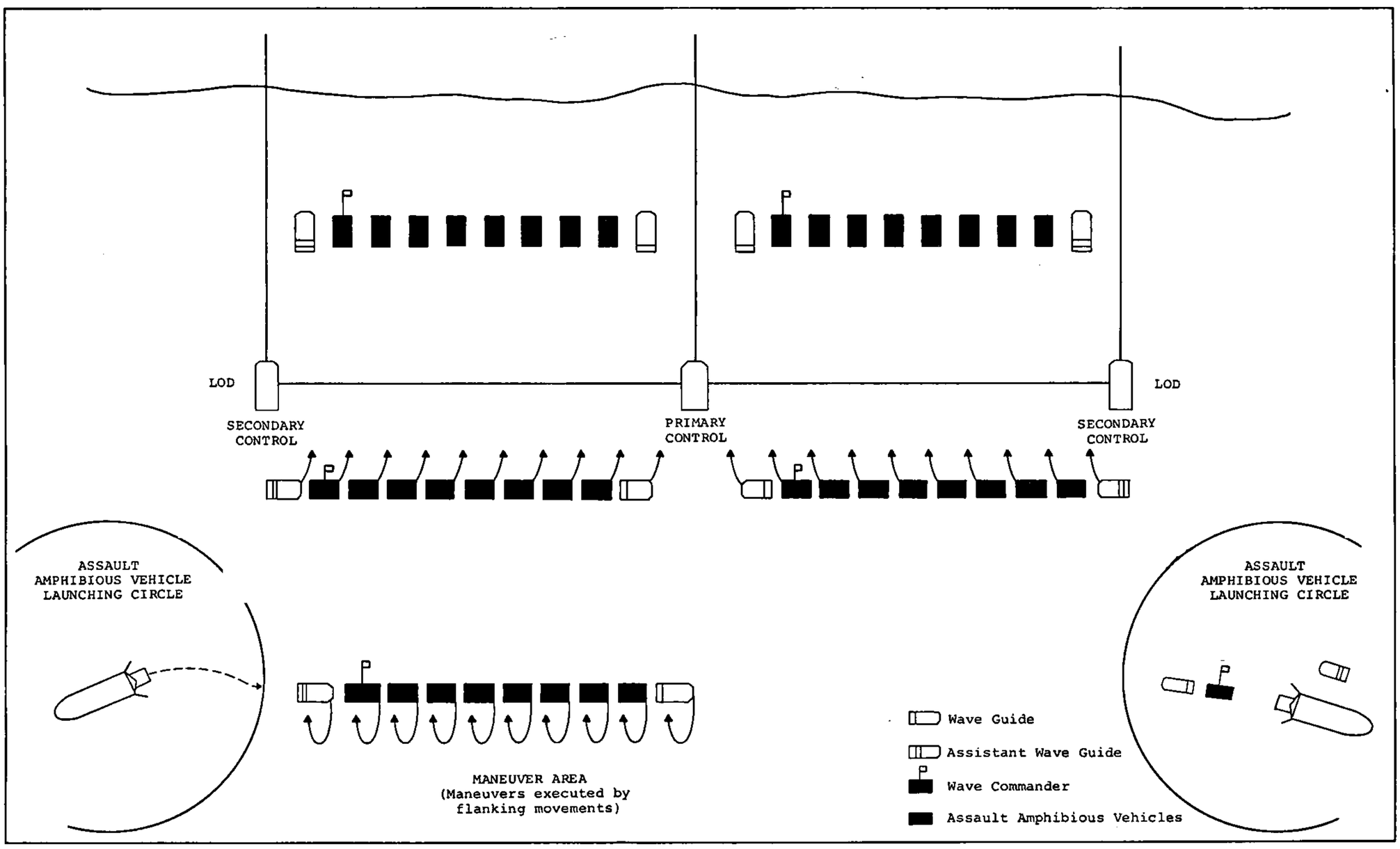


Figure 28.--Action of Assault Amphibious Vehicles.

(2) Landing Craft

(a) Loaded boats of the scheduled waves proceed from the ship to a rendezvous area. The rendezvous is normally located 500 to 1,000 yards from the ship in the direction of the approach lane marker ship. Wave commanders form their waves at the rendezvous. While in the area, waves circle slowly in assigned localities.

(b) Waves depart the rendezvous area for the line of departure on order of the boat group commander and in accordance with the approach schedule. The entire boat group normally moves as a unit with a short interval separating waves. During periods of good visibility, waves proceed in a closed, wedge formation. When visibility is poor, wave formation is a column. Distances between boats in a wave are in consonance with the visibility. Boat speed is regulated so that the boat group arrives at the line of departure at the proper time.

(c) If the boat group is not to cross the line of departure immediately, it will, under the direction of the boat group commander, circle by waves, staying clear of the line of departure. If the boat group is to land shortly, it should be assigned an area in which to circle near the line of departure.

(d) Boat wave formations and maneuvers between the line of departure and the beach are controlled by the boat wave commanders. The wave commander is responsible for executing the formation set forth in the landing diagram. During the last 1,000 yards of the approach, boats normally proceed at their maximum speed. Upon beaching, the coxswain, or designated member of the crew, lowers the ramp immediately. Following the landing of personnel and cargo, the landing craft ramp is raised and the craft retracts promptly from the beach and clears to a designated flank of the boat lane.

c. Actions of the BLT Commander

(1) Helicopterborne

(a) The BLT commander is normally airborne in a C&C helicopter.

(b) He observes the landings of initial and subsequent helicopter waves in one or more landing zones.

(c) Changes of landing zone, when required, are initiated and are based on firsthand knowledge.

(d) The BLT commander maintains communications with the helicopter coordinator (airborne).

(e) Immediate coordination of actions and/or recommendations between the helicopterborne unit and helicopter unit commanders is achieved when the free helicopter is piloted by the commander of the transport helicopters.

(2) Waterborne

(a) The BLT commander, in a freeboat, may assist the boat group commander in assembling landing craft at the rendezvous area. He

checks to ensure that company commanders have control of their units and that they are ready for the run to the beach. If radio silence has been lifted, he briefly and thoroughly tests all communications. He establishes and maintains communications with subordinate units and with the next higher troop echelon. He checks to ensure that the boat group is started for the line of departure in accordance with the approach schedule. The BLT commander assures himself that control officers are conducting the movement in accordance with the tactical plan. His unit commanders keep him informed, at all times, of their dispositions. During the run to the line of departure, the BLT commander can best assist in the movement by keeping station near the middle of the column.

(b) Upon arrival at the line of departure, the BLT commander contacts the primary control ship for last-minute instructions. He checks to see that the first wave crosses the line of departure when signalled. Only in the gravest emergency may he alter the time of landing of waves, or cause them to land on other than the assigned beach. The BLT commander chooses the time to land his freeboat.

2910. TRANSFER OPERATIONS

a. General.--The transfer is a time-consuming ferrying operation which may be conducted close to shore or some distance at sea. Ships utilized to transport helicopters in a multideck helicopterborne operation and assault amphibious vehicles in a waterborne operation often cannot accommodate all of the personnel to be landed by these means in the ship-to-shore movement. Transfer of units from ship to ship or from landing craft to assault amphibious vehicles are required to support the landing plan.

b. Transfer of Helicopterborne Units.--Embarkation considerations do not always permit the embarkation of units in the ship which they are to be landed by helicopter, particularly in large scale, multideck operations. The ship-to-ship transfer of these units is most easily and expeditiously accomplished by using helicopters.

c. Transfer of Waterborne Units

(1) Transfer Prior to Debarkation of Assault Amphibious Vehicles.--The transfer of troops from transport or other ships to landing ships carrying the assault amphibious vehicles in which they are to land can be accomplished by using helicopters or landing craft. Transfer of troops prior to debarkation of assault amphibious vehicles from landing ships is the simplest, least hazardous, and most desirable transfer method; the troops can load before the assault amphibious vehicles become waterborne.

(2) Transfer Subsequent to Debarkation of Assault Amphibious Vehicles.--If transfer of troops is not completed before the launching of assault amphibious vehicles from landing ships, either a transfer at sea directly from landing craft to assault amphibious vehicles or embarkation of troops directly from transport ships to assault amphibious vehicles is necessary.

(a) Transfer From Transport Ship to Assault Amphibious Vehicles.--The transfer of troops directly from transport ships to assault amphibious vehicles is utilized only if no other course of action is available.

(b) Transfer From Landing Craft to Assault Amphibious Vehicle.--When this method of transfer is utilized, a transfer area (line) is established seaward of the limits of safe navigation for landing craft and out of the range of enemy small arms fire. (See fig. 29.) In this

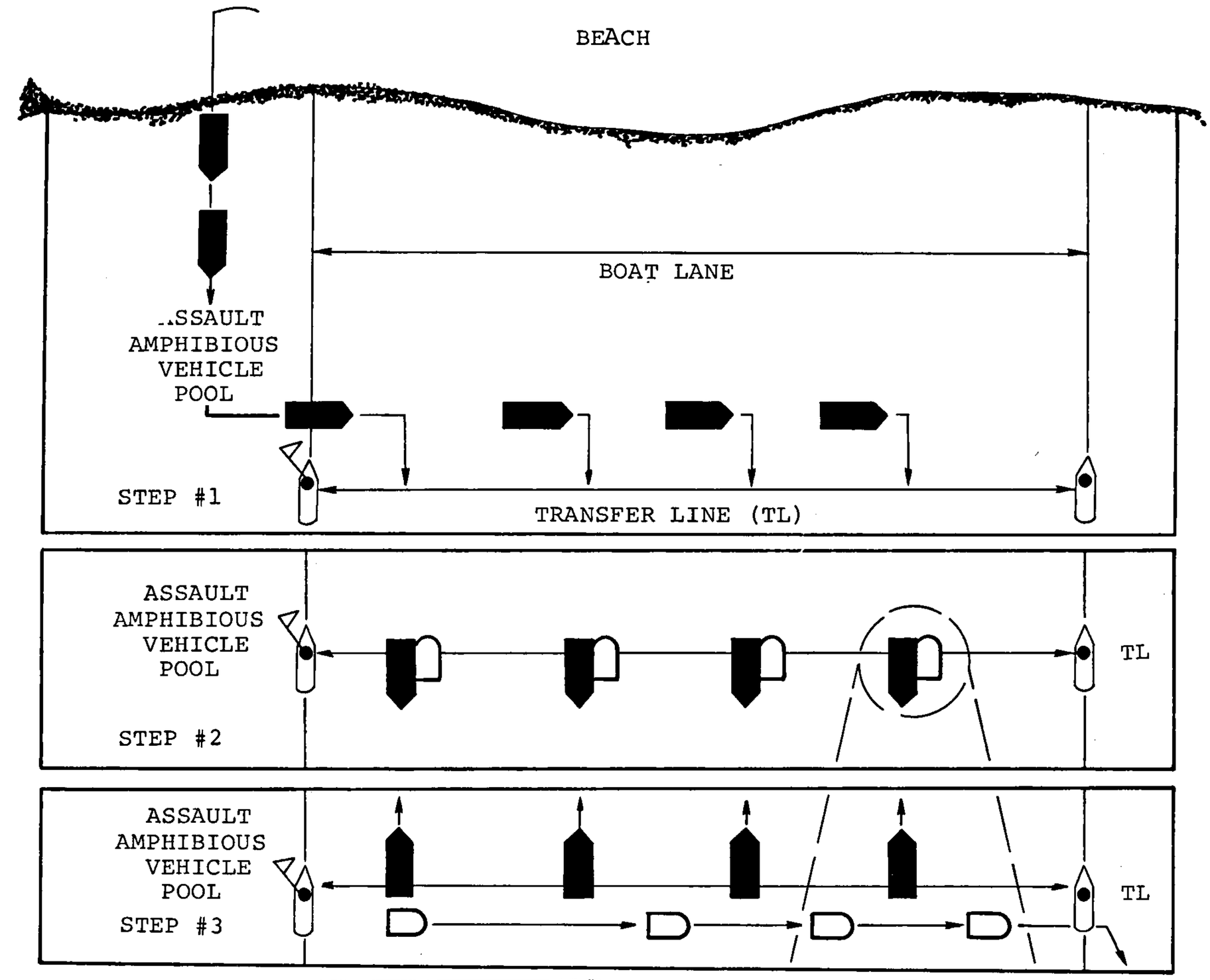


Figure 29.--Personnel Transfer Line.

area, troops and cargo are transferred from landing craft to assault amphibious vehicles for the trip to the beach. The additional time required for completion of transfer operations is compensated for by the ability of the assault amphibious vehicles to negotiate the beach and proceed inland. Beach congestion is reduced materially when assault amphibious vehicles are utilized for the landing of troops.

1 Control Within the Transfer Area.--The naval control organization is responsible for the conduct of transfer operations. The control ship for the beach concerned takes station near the transfer area as soon as transfer operations begin. The assault amphibious vehicle units, as well as the lifted troop units, are represented in the control group by liaison personnel. Wave guide control craft maintain station along assault amphibious vehicle routes helping drivers maintain course, assisting in the rescue of personnel from disabled vehicles, and assisting in traffic control.

2 Conduct of Transfer Operations.--The transfer operation is conducted as follows:

a All assault amphibious vehicles report to a designated vehicle pool officer.

b As a boat wave approaches the transfer area, the control officer requests the vehicle pool officer to dispatch the required number of assault amphibious vehicles to the transfer area.

c Vehicles approach the transfer area in a column parallel to a designated line. When properly spaced in a column, they turn to seaward, and lie-to in a direction likely to cause the least motion. Assault amphibious vehicles do not maneuver during the approach by landing craft.

d Landing craft waves approach the transfer area in a line abreast. Each craft "marries" to the lee side of the designated assault amphibious vehicle, bow to stern.

e Fenders are then placed between vehicle and craft, and the two are lashed together. Necessary maneuvers are powered by the landing craft, and the assault amphibious vehicle tracks remain disengaged during this phase of the transfer operation.

f Troops step from the gunwales of the landing craft to the deck of the assault amphibious vehicle and descend by boarding ladder into the cargo and personnel compartment of the vehicle.

g Heavy equipment is passed from the landing craft to personnel who have already transferred.

h Cargo loads are transferred by personnel stationed in the transfer area for this purpose. Roller conveyors between craft and vehicle may be used for this purpose. During latter stages, barges and floating cranes are used to speed cargo transfer operations.

i Landing craft are loaded so as to facilitate transfer of embarked personnel. A landing craft may carry several normal loads for assault amphibious vehicles. Loads for more than one destination are avoided.

j Once transfer is accomplished, landing craft proceed via the nearest flank of the appropriate boat lane to designated ships or control points for further employment. Assault amphibious vehicles proceed as directed by the transfer area control officer or wave guide.

2911. TACTICAL CONTROL

a. Communications.--(See par. 2502.)

b. Helicopterborne Operations

(1) Changing Landing Zones and Approach and Retirement Lanes

(a) It may become necessary, during the helicopterborne assault, to alter the course of helicopter flights or to shift from primary to alternate landing zones, due to changes in the enemy situation or changes in information regarding the terrain or weather. Alteration of landing zones or approach and/or retirement lanes may affect other aspects of the overall operation. Plans for establishing contact with a surface force, the capability of supporting arms to shift fires, the requirement of other elements of the landing force for fire support, and the flight capability of the helicopter unit can all be affected. Accordingly, alternate plans must be prepared to meet these contingencies. The details of those alternate plans and the manner of their execution are set forth in the operation order.

(b) The alteration of approach lanes and the shifting of landing zones will usually represent different problems. The approach lane is largely an aviation matter, and authority to change approach lanes leading to the same landing zone will usually be placed in the hands of the TACC or some element of the air control system.

(c) The alteration of landing zones will usually be a more complex problem, arising from ground or from aviation considerations, and sometimes from both. In cases where the shift does not involve a major departure from the prescribed approach lane, and where other problems of coordination are not great, plans may provide for decentralizing the authority of the troop and helicopter unit commanders so that a decision can be made on the spot. Where a change in landing zone involves a major approach lane change or where it involves complex problems of coordination, it will usually be necessary for the decision to be made at the landing force level. In any event, landing force plans must stipulate in detail the conditions under which changes may be made, who shall be empowered to make the decisions, and the latitude permitted in each case. It must also stipulate what is required to be done to assume full coordination of fire support as well as adequate notification of the air control system and the helicopter and troop units involved.

(2) Supporting Arms

(a) During the preparation, launching, and assembly of the helicopterborne force, naval gunfire and air support elements conduct prearranged missions in preparation for the landing. The helicopter unit and helicopterborne unit commanders are informed of the results of this fire support and are given any other information which pertains to the task assigned.

(b) A specifically assigned tactical air coordinator (airborne) is responsible for detailed coordination of the employment of the support aircraft involved in the helicopterborne ship-to-shore movement. He coordinates the efforts of supporting aircraft assigned to destroy enemy forces interfering with the helicopterborne movement.

c. Waterborne Operations.--During the ship-to-shore movement, original plans and orders prescribing boat formations and times and places for the landing of troops are strictly complied with until modified or canceled by competent authority. Competent authority for this purpose includes only:

(1) The commander amphibious task force.

(2) The troop commander who originated the plan or order concerned. In this connection, the highest unit which issues an assault schedule must be considered as the originator of the plan designating the time of landing of waves. Although the BLT commander may have originated the recommendation and may have a landing diagram appended to his plan, he is not the originator. In this sense, he cannot modify the plan except by recourse to higher authority, unless a grave emergency exists.

(3) A troop commander, senior in the regular chain of command to the originator of the plan or order concerned.

(4) The senior troop commander present, subject to the general rule that once the ship-to-shore movement is begun, the commander of any troop unit is the final authority as to where and when his unit shall land. This is construed to mean that a change by the BLT commander from the promulgated plan is to be made only in grave emergency.

2912. OVER THE HORIZON STANDOFF

a. General.--In certain combat environments, the deployment of amphibious shipping close inshore in the amphibious objective area may unduly hazard the forces involved. Extensive mining of coastal waters, a significant enemy surface-to-surface missile capability, desire for tactical surprise, or other local conditions may dictate the launching of an amphibious assault from considerable distance at sea. The ship-to-shore movement of helicopterborne forces in this type of assault presents no unique problems as the speed and range of the helicopter are sufficient to permit assault landings from extended distances. The landing of waterborne forces from a standoff posture requires the adoption of techniques which demand timing, seamanship, and training. The techniques employed involve the underway launch of assault amphibious vehicles and loaded landing craft. The procedure is advantageous in that it avoids a long, slow water transit while minimizing the duration of exposure of launching ships to hostile action. The delivery of fresh troops and fully fueled assault amphibious vehicles to the line of departure may constitute a tactical advantage when landed ashore.

b. Underway Launch

(1) The line of departure is located in a swept lane parallel to the beach and is marked with buoys.

(2) Well deck configured landing ships steam toward shore in a swept lane, turn at or near the line of departure, and launch loaded assault amphibious vehicles and/or landing craft while underway.

(3) Given adequate water depth and sea room, such a launch can be executed at high speeds.

(4) Launch intervals depend upon ship speed and on desired spacing between vehicles.

(5) Intervals in the approach of landing ships to the line of departure are dictated by the timing of assault waves.

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Section X. CONDUCT OF THE ASSAULT

21001. GENERAL

a. This section discusses the conduct of the amphibious assault using both helicopterborne and waterborne means. For detailed information of the helicopterborne amphibious assault, see FMFM 3-3, Helicopterborne Operations.

b. The helicopterborne assault begins when the leading helicopters of the first wave land in the landing zone. The waterborne assault commences with the crossing of the line of departure by the first scheduled waves. The assault ashore by the BLT commences with the debarkation of troops from the first helicopter, landing craft, or assault amphibious vehicle. Command and control of the assault is initially decentralized to the smaller elements as they land. As quickly as possible, control is regained by successive unit leaders as they come ashore, until finally, control is regained by the BLT commander. When the BLT commander has control, he coordinates the actions of his maneuver elements and available combat support elements to effect early seizure of the BLT objective(s).

21002. HELICOPTERBORNE ASSAULT

a. General.--The operations of the helicopterborne unit, once they have landed, normally take place in two phases: securing the landing sites and landing zones, and seizure of assigned objectives. Operations after the seizure of assigned objectives may include defense of these objectives until linkup and/or further maneuver against the enemy.

b. Securing the Landing Zone.--The first and most vital task of the helicopterborne forces is seizing the landing sites and zone and destroying the enemy within these areas and enemy forces within effective small arms range. Ground action is initiated immediately after landing the first wave and is continued until the landing zone is secure. Subsequent actions are based upon additional tasks assigned. Plans for initial action to secure the landing zone are prepared in detail and each unit commander must thoroughly understand his mission and how the tasks of his unit fit into the overall plan. All leaders make continuous estimates of the situation from the beginning of the helicopterborne movement until the assigned mission is accomplished.

c. Technique of Assault

(1) The size of the assault elements required is related to the estimated success of preparatory fires and to planned future employment or reinforcement of the helicopterborne troops. When nuclear preparation has preceded the landing, the size of the unit initially employed may be small. When preparatory fires are accomplished by nonnuclear weapons, and when the defending enemy forces are found to be strong or are rapidly reinforced, the employment of larger elements may be required to secure the landing zone.

(2) The initial helicopter waves are composed primarily of infantry elements organized to provide a concentration of automatic weapons, an antitank capability, and augmentation from the flame weapon section.

These units clear the landing zones of enemy forces, taking full advantage of the surprise and shock action resulting from heavy preparatory fires.

(3) Each heliteam of the first wave is assigned a sector of responsibility. Upon deplaning, heliteams destroy enemy elements located in their sector. Centralized unit control is established as rapidly as possible.

(4) When control is firmly established, rifle units attack to seize assigned objectives. When the landing zone is seized, infantry troops set up a temporary defense to ensure initial landing zone security. Contact is established with friendly units and preparations are made to continue the attack or to conduct other tasks as may be assigned.

(5) Infantry units landed in succeeding waves are employed as necessary to ensure seizure of or defense of the landing zone. If they are not committed, they proceed directly to previously designated assembly areas and prepare for offensive actions.

(6) Antitank weapons are included in early helicopter waves to provide antitank defense.

(7) Artillery unit forward observers and reconnaissance parties are landed with early helicopter waves to expedite prompt artillery support. Artillery firing elements, when attached, follow assault troops into the landing zone and land at previously selected position areas. Firing elements are not landed in areas which are under small arms fires. Alternate landing sites and position areas are considered to prevent delay of artillery support. A high priority is given to the movement of an adequate supply of ammunition.

(8) Engineer personnel are landed with infantry units, as required, to provide necessary combat engineer support in the landing zone such as landing site clearance, removal of obstacles, and supervision of the installation of hasty minefields.

(9) Helicopter support team elements, including landing zone control personnel, are landed early to improve the landing zone, relieve terminal guidance teams, provide electronic and visual aids to identify landing zones and sites, and control helicopters in subsequent waves. Helicopter support team service personnel land in succeeding waves and establish logistic facilties to support helicopterborne unit operations. Early reconnaissance is undertaken and distribution points are established rapidly so that incoming supplies may be processed immediately upon arrival. Medical personnel are landed early to establish adequate aid stations and casualty evacuation facilities.

(10) Headquarters personnel are echeloned into landing sites, as required, to coordinate and control operations. Headquarters personnel assemble in the predesignated command post.

21003. WATERBORNE ASSAULT

a. The assault is initiated by the smaller elements of the BLT fighting independently at the water's edge. Success depends primarily upon the ability of the small unit and the individual to execute aggressive, independent action. Their actions are directed toward early destruction of

the enemy and his fortifications that can interfere with the landing of subsequent troops and supplies.

b. The momentum of the attack is maintained by the appropriate application of fire and maneuver and by exploiting the effects of shock from preparatory fires before the enemy can recover. Delays for decisions and reorganization are held to a minimum. Although adjacent units may be heavily engaged, units successfully advancing push inland to exploit weak spots in the enemy's defense.

c. During this stage of the landing, air and naval gunfire are conducting preplanned fires on the periphery of the landing area. Organic supporting weapons such as machineguns, rocket launchers, and flame weapons assist rifle units in overcoming the defenders.

(1) During the waterborne movement, naval gunfire spotting team observers and forward air controllers establish communications with direct support ships and the tactical air controller (airborne) respectively. When the tactical situation requires, preplanned fires are preempted by fires against targets of opportunity which present a more immediate threat.

(2) Preplanned supporting fires are based upon a predicted rate of advance. Commanders of assault elements must be prepared to adjust them to the actual rate of advance.

21004. BATTALION LANDING TEAM

a. The presence of four rifle companies in a BLT provides the BLT commander with a high degree of flexibility. This flexibility, particularly with the added mobility of the helicopter, gives him a greater means of influencing the action ashore. The two major means of influencing the action ashore are the use of the reserve and the employment of supporting fires.

b. Upon landing, the BLT commander positions himself where he can best control and coordinate the actions of his subordinate units. Command facilities should receive a high priority to ensure continuous communications to higher and subordinate units. Although radio will be the primary means of communication, certain situations may permit the use of wire.

(1) Based upon the situation and the availability of wire, a wire team is assigned each assault company and is preferably boated with the company commander. The use of wire may not be feasible in an extremely rapid-moving situation. When the company commander leaves the beach, a man will remain on the beach at one end of the wire, while the wire team with packboard and reels of wire accompanies the command post. The end of the wire on the beach is left with sufficient slack to permit some lateral movement to the point of landing and establishment of the temporary BLT switchboard.

(2) When the BLT commander lands, his wire team picks up the end of the wire lines left on the beach by each assault company and ties them into a temporary switchboard. A line is then established from this switchboard to the initial BLT command post.

c. The boat lane, the beach, and the zone of action to the initial battalion objective are all restricted, as a general rule, in width.

Although the BLT commander cannot move the reserve out of the assigned boat lane, if the beach is extremely congested or critical conditions render it desirable, he may request permission to delay the time of landing of the reserve. These considerations make the employment of a reserve company more restricted initially than in land warfare.

d. In addition to committing the reserve, the BLT commander exerts influence on a course of action by proper and timely application of available fires. Once the 81mm mortar platoon and supporting artillery are in position to fire, the BLT commander has additional sources of supporting fires. To facilitate their employment, the BLT commander ensures that the following actions are taken:

(1) An advance reconnaissance element from the 81mm mortar platoon, landing in an early wave, determines the suitability of planned positions or locates better ones. After the final choice is made, the reconnaissance element guide meets the mortar platoon as it lands and guides it into position. Forward observers with assault companies should be ready to conduct fire missions the moment the mortar platoon is operational. Consideration is given to the early landing of the artillery reconnaissance party.

(2) Artillery, naval gunfire, and air liaison officers and their communication personnel are boated with or must have communications with the BLT commander. They are capable of coordinating the fires of supporting arms during the ship-to-shore movement.

(3) Weapons retained under BLT control, such as the Dragon, are employed to obtain maximum effect.

(4) Reconnaissance personnel from engineers, artillery, tanks, etc., are given every assistance in order to expedite the early employment of these units.

(5) When a controlling agency is unable to request fire missions through normal communication channels, steps are taken to relay them by other means.

(6) For further information on the coordination of supporting fires, see chapter 3, section VIII, and FMFM 7-1, Fire Support Coordination.

21005. OPERATIONS ON A FLANK

a. A BLT landing on a flank may be initially responsible for the flank protection of the waterborne elements of the landing force. This imposes a definite responsibility on the BLT commander which cannot be discharged by merely ordering the flank company to protect that flank. The responsiblity for flank protection is usually not delegated to a unit smaller than a BLT, since it is the smallest unit which has the means to accomplish the mission.

b. Movement inland from the beach, causing an extension of lines, ultimately places maximum strain in a flank BLT. There are two basic methods of avoiding this: first, by changing direction of the assault units toward the flank while using the reserve to continue the attack inland; and secondly, by using the reserve on the flank while the assault units attack inland. The first method has the disadvantage inherent in any change of

direction by units in contact with the enemy; in addition, it may produce a divergence of effort by the assault units. The second method has the disadvantage of tending to leave the flank exposed or causing the assault unit to hold its flank back until the reserve can take position. However, this disadvantage can be largely overcome by the proper employment of supporting arms fire to interdict the approaches to the exposed flank.

c. The scheme of maneuver of a flank BLT varies primarily with the desires of the commander and the enemy situation. However, the following principles are observed:

(1) Enemy positions commanding beach approaches are destroyed as soon as possible.

(2) Specific objectives are assigned each attacking unit.

(3) Divergence of effort and change of direction, when in contact with the enemy, are avoided when possible.

(4) Plans for maximum exploitation of all available fires are mandatory.

(5) Well-defined plans are prepared for the employment of the BLT reserve.

(6) Consideration is given to the utilization of armor and assault amphibious vehicles, when available.

(7) Gaps between flank units are covered by patrols, flank guards, echeloned reserves, and/or by surveillance and fire.

d. As the attack progresses, higher commanders will either designate a reserve unit to relieve the BLT of its flank responsibilities and allow it to continue the attack inland, or will order the BLT to halt its attack inland and assume continuing responsibility for the flank. In the latter case, reorganization and occupation of defensive positions is usually necessary.

Section XI. DEFENSIVE CONSIDERATIONS

21101. GENERAL

a. Defensive combat is, in itself, the antithesis of the amphibious operation. A virtually uninterrupted offensive, characterized by maneuver, firepower, and shock action, is maintained by the landing force throughout the amphibious operation. An offensive state of mind and aggressive spirit is maintained at all times and at all levels of the landing force. In order to retain the initiative, constant pressure is exerted against the enemy.

b. Although the amphibious assault is essentially offensive in character, during the course of operations ashore, there will be occasions when the entire landing force, or certain of its subordinate elements such as the BLT, will be required to assume a defensive attitude or employ certain specific defensive measures. In general, defensive action by or within the landing force, which is equally applicable to the BLT, will assume the following forms:

(1) Defense of a Transitory Nature.--This type of defense may be assumed by elements of the landing force, to include the BLT, on a day-by-day basis following the seizure of certain objectives whose defense is incidental to preparing for the early continuation of the attack. Other reasons for assuming this type defense may be to obtain more favorable conditions for offensive action, to economize in one area in order to apply decisive force elsewhere, or to trap a hostile force.

(2) Defense in Relation to the Termination of the Amphibious Operation.--As the landing force seizes those specific physical objectives incident to the conclusion of the landing force mission, the landing force or certain of its elements, to include the BLT, may assume a defensive posture. This type of defense is conducted in accordance with established procedures for defensive land warfare or in accordance with the doctrine for the defense of advanced bases.

(3) Defense Against Enemy Action of a Specific Nature.--Throughout the operation, the landing force as a whole, and each of its subordinate elements, must be alert and prepared to defend against specific enemy reactions to the landing. It must be assumed that the enemy will attempt to employ all available means and methods to resist, repel, harass, or destroy the landing force. Such enemy counteractions may include mechanized attack, air attack, airborne or helicopterborne attack, guerrilla or infiltration operations, and nuclear, biological, and chemical attack.

c. The defensive reaction by the BLT to enemy counteractions can be active, passive, or a combination of the two. Active defense measures are those employed for the purpose of destroying or inflicting maximum loss to the enemy. Certain types of enemy counteraction, such as nuclear attack and high performance aircraft attack, limit the BLT to passive defense measures. The BLT has organic direct support means to effectively launch active defense measures against such enemy counteractions as guerrilla actions and mechanized, airborne, or helicopterborne attack. Passive defense measures include dispersion, rapid displacement, camouflage, natural cover, protective construction, concealment, use of natural or artificial obstacles, smoke, and all forms of deception (including electronic).

21102. DEFENSE AGAINST MECHANIZED COUNTERATTACK

a. General.--Mechanized counterattacks offer one of the greatest threats against amphibious assault forces because of the initial lack of combat forces ashore. If the enemy is known to have an immediate mechanized threat in the landing area, heavy antitank means such as tanks and tube launched, optically tracked, wire command link guided missile systems (TOW's) may be landed in the early waves. Tanks may be landed in the first wave of the assault if circumstances permit; however, there are seldom sufficient landing craft, adequate beaches, etc., to be able to land all forces desired in the first several waves. Principal reliance for the initial antimechanized effort must be placed on pre-D-day and pre-H-hour operations.

b. Pre-D-Day Antimechanized Operations.--Prior to the arrival of the amphibious task force in the amphibious objective area, the principal means available to attack enemy mechanized forces are fast naval striking forces and area air forces. Attrition of enemy mechanized forces is carried out by these agencies. During pre-D-day bombardment, isolation of the objective area from mechanized attack is aided by bridge destruction, road cutting, and remote mining.

c. Pre-H-Hour Antimechanized Operations.--Once the amphibious task force is in the objective area, the destructive power of naval gunfire against enemy armor can strongly augment aircraft efforts. During the preparatory naval bombardment, fire support ships give priority of fire to mechanized targets that come within their zones of responsibilities. Isolation of the beachhead from tank penetration is desirable. Total isolation of the beachhead, however, may be avoided when there is a need to use certain key roads or passes in the continuation of the attack inland. Aircraft and naval gunfire continue to be the principal antitank (AT) means prior to the landing of AT weapons.

d. Landing and Operations Ashore.--As the landing force proceeds ashore, air and naval gunfire continue their antitank efforts, receiving their targets from forward air controllers and naval gunfire spotting team observers with the assault troops and from aerial observers.

(1) During the early stages of the landing attack, the principal defense against enemy mechanized forces continues to be aircraft, supplemented by naval gunfire. They attack enemy targets which appear, dispersing and delaying enemy buildup. This action facilitates the rapid seizure of initial objectives by elements of the landing force, thus permitting early landing of additional AT weapons. During this period, helicopterborne units may be landed to delay and harass mechanized units. They can assist in channelizing any future armored effort by mining and constructing obstacles.

(2) Supporting area and fleet air elements, as well as landing force air elements, continue their antimechanized search and attack missions throughout the conduct of the operation. Air attack missions are carried out from the forward elements in contact to the limit of the aircraft's respective combat radius. Naval gunfire ships reorient their antitank efforts as the forward elements of the landing force pass beyond the effective range of their weapons and they then direct their antimechanized effort to the flanks of the landing areas.

(3) As the strength of the landing force builds up ashore, its capability to defeat a mechanized force increases as the enemy's mechanized capabilities are reduced by friendly air and NGF action. During the progress

of the landing, there is an increase in the number of antimechanized weapons ashore. The assaulting infantry possess organic AT weapons which give them a close-in antitank capability. Tanks and TOW's are landed as early as possible, to add combat power to the assault and to provide antimechanized defense for the landing force. As soon as possible, additional antitank means are brought ashore and directed to positions to cover avenues of mechanized approach. AT strength also accrues from the supporting artillery. Complete communications and control facilitate the effectiveness of landing force antimechanized means. The enemy may have the capability to react with larger and more distant armored forces. Efforts are directed towards the destruction of these forces prior to their entry into the beachhead area.

e. Offensive Action by the Landing Force

(1) The enemy mechanized forces must be located, engaged, and killed as far forward of landing force positions or objectives as possible. Antimechanized operations are built on the coordinated and controlled employment of all antimechanized means available to the landing force. This assures that the enemy will meet continuous resistance upon entry into the battle area, and before it can interfere with the successful completion of landing force missions.

(2) All antimechanized actions open to the landing force are not defensive. The helicopter gives the landing force a vehicle for the conduct of aggressive antitank operations throughout the area of operations at times and places of its own choosing. Helicopterborne forces can strike at the highly vulnerable support elements of the enemy mechanized force. These strikes are aimed at fuel dumps, maintenance facilities, ration stores, and ammunition supplies. The landing force also has units, skilled in demolition and mine warfare, that can cut routes used by the mechanized forces by mining the roads and blowing the bridges in order to impede the entry of armor into the landing force objective area and cut the enemy armor off from its logistic train.

f. BLT Role in Antimechanized Action

(1) The BLT seldom prepares a countermechanized operations appendix, except when operating in widely separated landings as an independent BLT or as the MAU. However, the BLT commander, his staff, and certain subordinate commanders must have a thorough knowledge of antimechanized plans and how they affect the BLT. The BLT commander is also responsible for the following:

(a) Continual appraisal of avenues of approach suited for enemy mechanized forces.

(b) Preparation for the employment of organic and external antimechanized means.

(c) Properly indoctrinating and training troops for combat against enemy mechanized forces.

(d) Detecting and reporting indications of an enemy mechanized threat to higher headquarters.

(e) Plans for construction of obstacles and positions and the laying of minefields consistent with the time and personnel available.

(f) Instructions to subordinate units to include actions to be taken if enemy armor is successful in penetrating the BLT's forward edge of the battle area (FEBA).

(2) The fact that heavier AT weapons will not usually be available at the outset of landing places a heavy burden on the organic weapons of the battalion. These weapons (Dragon, demolitions, thermite, phosphorus grenades, antitank grenades, flame weapons, and LAAW's) coupled with attached TOW teams must bear all brunt of the enemy threat until the tanks are landed.

21103. DEFENSE AGAINST NUCLEAR, BIOLOGICAL, AND CHEMICAL ATTACKS

The defense against nuclear, biological, and chemical (NBC) attacks requires special consideration and training. However, many of the passive measures utilized in conventional warfare contribute to the defense against NBC operations. The proper training of personnel, provisions for decontamination, evacuation, and individual protective equipment and clothing are primary NBC defense requirements. Additional precautions in selection of weapons positions, defensive positions, construction of protective shelters, and special warning systems may be necessary. For detailed information see FM 21-40, Chemical, Biological, Radiological, and Nuclear Defense; FM 21-41, Soldier's Handbook for Defense Against Chemical and Biological Operations and Nuclear Warfare; FM 21-48, Planning and Conducting Chemical, Biological, Radiological (CBR) and Nuclear Defense Training.

Section XII. AMPHIBIOUS RAIDS, DEMONSTRATIONS, AND WITHDRAWALS

21201. GENERAL

Amphibious raids, demonstrations, and withdrawals are lesser included types of amphibious operations in which an entire landing force or elements thereof participate. While no two amphibious operations are alike, all are sufficiently similar that the overall basic doctrine and basic techniques are applicable for each. However, in other respects, the lesser included types of amphibious operations differ to such an extent from the amphibious assault that they are described separately in this section. Major differences are the purpose of the operation and the fact that they normally do not involve retaining a landing force on a hostile shore.

21202. AMPHIBIOUS RAIDS

An amphibious raid is a landing from the sea on a hostile shore involving swift incursion into, or temporary occupancy of, an objective, followed by a planned withdrawal.

a. Classification and Purposes.--Raids may be independent operations or support other operations such as another landing, a land campaign, or an air or naval operation. Raids, themselves, may be supported to such a degree that they will resemble the early stages of an amphibious assault or they may be accomplished largely by stealth. Regardless of the degree of support provided or the general purpose of an amphibious raid, its specific aims may include any or several of the following:

(1) The destruction of certain targets, particularly those that do not lend themselves to destruction by other means. Targets for destruction may include military, naval, or industrial installations; communication facilities; and transportation facilities such as bridges and tunnels. Raids aimed at destruction may have either strategic or tactical significance or both.

(2) The harassment of the enemy by attacks on isolated posts, patrols, and headquarters, and the capture or killing of key personnel. In addition to specific aims, harassing the enemy has the effect of lowering his morale.

(3) The attack of the enemy rear or flank positions on a seacoast, in support of forces engaged with the enemy.

(4) The obtainment of information on hydrography, terrain, and the enemy to include his dispositions, morale, strength, movement, and weapons.

(5) The creation of a diversion in connection with strategic or tactical deception.

(6) The evacuation of individuals, including agents, or materiel.

(7) The establishment of, support of, or coordination of unconventional warfare activities.

b. Organization and Command Relationships

(1) The principles of organization and of command relationships applicable to amphibious assaults apply generally to amphibious raids. Accordingly, overall command of an amphibious raid rests with the commander amphibious task force. Due to the unique nature of missions that may be assigned, and the resulting variations in composition of troop and naval forces involved, the common superior will specify in his initiating directive the exact details of command relationships in each case.

(2) Amphibious raids are directed and controlled from the highest command in the area of operations. Subordinate commands can, however, plan and conduct raids. The highest commander in the area is kept informed and in effect approves plans for raids to ensure unity of effort and coordination within the area of operation. Such control is necessary to eliminate duplication and conflict between different organizations.

(3) The execution of an amphibious raid is accomplished in the following phases:

(a) Ship-to-shore movement.

(b) Operations ashore to include movement from the landing beach or landing zone to the objective, attack of the objective and withdrawal to reembarkation site(s) (reembarkation sites may not be the same as the landing beaches or landing zones used in the landing).

(c) Reembarkation.

c. Planning.--The BLT, or a larger force, has an adequate staff to plan for an amphibious raid. Raiding forces smaller than a BLT are provided a planning staff, usually from the BLT providing the raiding force; however, under certain circumstances, the planning staff may be provided from other sources. Unless otherwise directed, this staff conducts planning functions only, and it is not part of the raiding force.

(1) Organization.--The raiding force, regardless of size, is task organized for the specific mission of the raid. Additional personnel, supplies, weapons, and equipment are provided as necessary.

(2) Variations from Amphibious Assault.--An amphibious raid is planned and executed in the same general manner as a landing for the purpose of capturing a position ashore, except that specific provision is invariably made for withdrawal. Because of its lesser size and limited purpose, the plans for a raid may embody the following variations:

(a) It may be unnecessary for the selected beaches or landing zones to meet all the requirements of an amphibious assault. In small scale raids, they are chosen from the point of view of ensuring tactical surprise.

(b) The limited duration of a raid may make it possible to conduct the operation without local naval and air superiority.

(c) Final deployment of the raiding force may not be required until it reaches the objective ashore.

(d) The limited objective and short duration of the amphibious raid will usually simplify logistic support requirements.

(e) Through prearrangement, it may be possible for a small scale raid to be executed with very limited communication means.

(3) Basic Considerations

(a) Secrecy and Surprise.--Surprise is essential to the success of any amphibious raid. Exploiting surprise reduces the logistic and fire support normally required for the amphibious assault. Surprise is dependent upon secrecy during all stages of planning, preparation, and execution of the raid. Precautionary measures include restrictions on dissemination of plans, isolation of areas where planning and training are conducted, schemes for misleading the enemy as to naval missions or objectives of the raid, and similar precautions. See paragraph 2205, for further information on security in planning.

(b) Intelligence Requirements.--The primary purpose of a raid may be to gain intelligence; however, specific and detailed intelligence is highly essential in planning an amphibious raid. Intelligence obtained from coast watchers, overt and clandestine agents, friendly guerrillas, and similar sources is of great value. Based upon the trustworthiness, accuracy, and reliability of such a person or persons, and if feasible, they may be secretly evacuated from the objective area to assist planners.

(c) Date and Time of the Raid.--The purpose of the raid, to include its relationship to other concurrent or imminent operations which it supports, is the principal consideration in establishing the date of the raid. The exact time of the raid will be predicated on such factors as darkness, tides, weather conditions, and enemy habits.

(d) Selection of the Landing Beach(es) and/or Landing Zone(s).--The selection conforms with considerations and factors of the conventional amphibious operation, with paramount emphasis on surprise.

(e) Fire Support.--Fire support planning is, in general, similar to that for an amphibious assault. When surprise is the major factor, supporting fires are planned, but usually are withheld until the enemy discovers the attack. Supporting fires are especially essential to cover the withdrawal.

(f) Transportation.--The raiding force can be transported to and out of the objective area by surface or subsurface shipping, helicopters, transport aircraft, or any combination of these means which best serves the purpose of the raid.

(4) Scheme of Maneuver

(a) After all intelligence on the area and the enemy has been assembled, the size and type of raiding force is determined concurrently with the plans for attacking the objective. In developing the scheme of maneuver, the selection of the landing beaches or landing zones is of particular importance. The beaches or zones selected should permit easy access to the objective; however, if surprise is of paramount importance, a less suitable beach or landing zone, or one more distant from the objective, may be chosen.

(b) The raiding force is given a simple mission which permits a flexible time schedule since decentralization and a frequent lack of overall missions is normally undesirable unless the object is to create a diversion. In this case, contingent missions may be assigned or permission given to engage targets of opportunity. However, the assignment of tasks to subordinate elements of the raiding force should be such that failure to accomplish one task will not cause the entire operation to fail.

(c) A covering force element may be designated to prevent enemy action from interfering with the main body's attack of the objective and withdrawal.

(d) The withdrawal is the final step in the scheme of maneuver. Factors considered in planning the withdrawal are the time required to attack and reduce the objective, the expected enemy reaction, the delay resulting from enemy reaction and friendly casualties, and availability of a covering force. Reembarkation points are selected as part of the scheme of maneuver. The raiding force may reembark at the same sites at which they landed, or it may reembark at a different site, depending on the terrain and tactical situation. Once the reembarkation point is selected, however, it is not changed during the raid unless absolutely necessary.

(5) Ship-to-Shore Movement

(a) Daylight.--In an amphibious raid, the technique used in the ship-to-shore movement is predicated on the mission of the raid. Enemy situation permitting, transporting ships move close inshore so landing craft, assault amphibious vehicles, and helicopters have a relatively short run to the beach. If supporting or preparatory fires are used, the ship-to-shore movement for a raid is similar to that for a major amphibious operation. However, the usual control ships and lines of departure off landing beaches are normally used only for large-scale raids.

(b) Reduced Visibility.--If the reason for landing at night or under other reduced visibility conditions is to gain surprise, preparatory fires will rarely be used. Other techniques which preserve surprise would be emphasized. These include communication restrictions, last minute deployment of landing craft, and alternate plans for changing landing sites. Consideration is given to landing a pre-H-hour landing party, landing all or part of the force in rubber boats to seize immediate objectives and to cover the remainder of the troops landing in other types of craft.

(6) Fire Support.--If supporting fires are desirable or feasible, they are planned in great detail. Naval gunfire and air support may not be employed in support of a small sneak raid, but they are employed in a large raid in the same manner as in an amphibious assault. Between these two extremes, the landing force commander determines the extent to which supporting fires will be of value to him. To achieve surprise during a predawn landing, fires may be withheld until the objective is attacked. Supporting fires are especially valuable during the withdrawal.

(7) Training.--Training is of greater importance for an amphibious raid than for normal amphibious operations. The very nature of a raid, where limited forces are employed and every man has a specific task to perform, demands competent and well trained troops. Each man involved

in the raid must not only know and be able to perform his own assigned tasks but also should be able to perform the tasks of other key personnel. Training and rehearsals should, therefore, not only stress the role of the individual but also the role of the raiding force as a whole.

(a) Troops selected to participate in a raid should be highly qualified in the essential military subjects and amphibious, as well as normal, combat skills. Some refresher training may be accomplished during training and rehearsals for the raid; however, the time during this period is better spent on training and rehearsal for the specific raid.

(b) Training for amphibious raids is normally accomplished in progressive stages from individual training to the final dress rehearsal of the entire raiding force. First, individuals receive refresher and specialty training, such as night movement, cliff scaling, demolitions, hand-to-hand combat, and camouflage. Training then progresses to the training of small groups such as demolition parties and covering groups. Finally, the raiding party as a whole rehearses and re-rehearses portions and finally the entire operation.

(c) The ultimate success or failure of a raid depends to a great extent on the degree of realism achieved during the rehearsals. If possible, the rehearsals should be made in an area closely resembling the actual objective area and under the same physical conditions anticipated to exist during the actual operation.

(8) Conduct of the Raid

(a) The ship-to-shore movement begins on arrival of shipping off the beach. Once ashore, the covering force takes up its positions to protect the main body during its movement from the beach or landing zone to the objective. The raiding force attempts to arrive at the objective by avoiding engagement en route. When ready to assault the objective, prearranged and on-call supporting fires commence, if used.

(b) The raid commander operates a command post in which enemy information is evaluated, communications and supporting fires are controlled, the withdrawal is ordered and controlled, and decisions as to the execution of alternate plans or changes in the employment of subordinate units are made.

(c) After accomplishing its attack mission, the raiding force commences to withdraw rapidly. The covering force, either previously designated in plans or constituted from uncommitted or disengaged forces, develops its disposition to ensure an orderly withdrawal and reembarkation. Supporting fires become more intensified as the withdrawal progresses. Withdrawal and reembarkation proceed simultaneously until the last man is reembarked.

d. Friendly Guerrillas in Support of Amphibious Raids

(1) General

(a) While friendly guerrillas may be an asset, the decision to employ them to assist the amphibious raiding force is carefully considered. The decision to employ them must be based upon the utmost trust and reliability not only of their leader, but in the guerrilla force as a

whole. When such forces participate in an amphibious raid, only planning details essential to their own operation are provided to them.

(b) Even though an amphibious raid is planned to be conducted without the assistance of friendly guerrillas, the raiding force commander should be prepared to exploit their capabilities, if the need arises.

(2) Control.--The operational control of friendly guerrilla forces is assigned to the commander landing force when he assumes responsibility for operations ashore. Due to the exigencies of politics, military situation, and capabilities of the guerrilla force, the area commander should issue guidance on the initial assistance that can be expected from a guerrilla force.

(3) Mission.--Missions developed for guerrilla forces may closely parallel those assigned by the raiding force, but will invariably be strongly influenced by the following:

(a) Reliability and capability of the guerrilla commander and his forces.

(b) Personality of the guerrilla commander and guerrilla rivalries.

(c) Security of the guerrilla base and availability of supplies.

(d) Possibility of enemy retaliation against guerrilla forces or friendly civilians.

(4) Guerrilla Assistance in Support of a Raid

(a) Covert Operations

1 Civil Disturbances.--Civil unrest directed against the enemy that will cause him to misdirect his forces, change policy, and/or weaken his combat power.

2 Sabotage.--Sabotage is one of the guerrilla's most effective weapons. If properly employed, it will reduce the enemy's war potential and morale, and force the enemy to divert more troops to security missions.

3 Reconnaissance Screens and Patrols.--Guerrilla forces can provide a most effective screen to the front and flanks, locating and temporarily isolating enemy positions. Before an amphibious raid, they can conduct early reconnaissance; during the raid, act as guides; and after the raid, assist in evasion and escape.

(b) Overt Operations

1 Ambush.--A proven effective technique of guerrilla warfare is the ambush. Properly planned and executed, it achieves the shock and surprise necessary to overcome the guerrilla's limitation in combat power.

2 Raids.--Like the ambush, the raid depends on surprise for effectiveness. Raids are employed to destroy (in some form)

key enemy installations; communication centers; and/or capture personnel, supplies, or equipment. Raids carried out by guerrillas differ very little, in essence, from an amphibious raid.

4 Attack in Force.--This form of action is seldom attempted by guerrilla forces alone. The attack in force usually is a limited objective attack, an action to cripple or paralyze an enemy who is actively engaged on his main fronts with forces allied to the guerrillas. Against a trained and equipped enemy, the guerrilla force will seldom risk an attack in force.

21203. AMPHIBIOUS DEMONSTRATION

a. General.--An amphibious demonstration is an operation conducted for the purpose of deceiving the enemy by a show of force or by a minor attack with the expectation of influencing the enemy into a course of action unfavorable to him. The demonstration is a feint at landing involving an approach to a beach or landing zone.

(1) An amphibious demonstration is designed primarily to deceive the enemy as to the time, place, or strength of the main attack, and normally includes preparatory and supporting fires.

(2) Although an amphibious demonstration is a landing deception operation, it does not involve the commitment of a landing force ashore. Since an actual landing is not made, the operation is largely naval in character.

(3) Although there is limited participation by the landing force in the execution of a demonstration, the commander landing force is active in the planning of the demonstration in order that proper support of the main attack is achieved. Other factors include such things as the role and availability of the landing force reserve or helicopter units when such forces are employed as part of the demonstration.

(4) The commander landing force is particularly interested in the evaluation of the results of the demonstration to determine its precise effect on the main landing.

(5) Normally, the landing force elements of a demonstration force are no larger than a BLT.

b. Execution.--Normally, a BLT designated as the landing force in an amphibious demonstration assigns one rifle company to provide the troops required. The BLT commander, assisted by his staff and in close coordination with naval elements, ensures that troop participation is carefully planned and realistically conducted. The BLT participation in an amphibious demonstration usually involves:

(1) Providing troops and equipment to simulate debarkation of assault troops.

(2) Providing a token number of boat teams, or portions of boat teams, to ride in designated landing craft in a waterborne demonstration.

(3) Providing a token number of heliteams for helicopter-borne amphibious demonstration. In some cases, troops may actually debark

258-888 O - 78 - 11

from helicopters for a short period of time. Such occasions are when the landing zones and areas immediately adjacent to them are not occupied by enemy troops.

21204. AMPHIBIOUS WITHDRAWAL

a. General.--An amphibious withdrawal is a withdrawal of forces by sea in naval ships or craft from a hostile shore for the purpose of evacuating forces to preclude their loss or to retract them for employment elsewhere.

(1) An amphibious withdrawal may be forced or voluntary. The action which precedes the withdrawal is usually some form of retrograde movement, conducted in accordance with the doctrine and techniques prescribed for such movements and common to land combat. The amphibious withdrawal begins with initial measures in defense of the embarkation area, in conformity with the requirements imposed by the enemy situation, and it ends after embarkation of the final covering force elements of the force being withdrawn.

(2) In an amphibious withdrawal, unless circumstances render it impossible, most of the movement is made during daylight hours to avoid confusion during the embarkation. It is desirable, however, to withdraw and embark priority elements such as tanks and artillery under cover of darkness.

(3) Regardless of the size and scope of an amphibious withdrawal, the BLT is a major participant. It may be assigned to accomplish one, some, or all of the tasks set forth below.

(a) Provide security posts.

(b) Provide the covering force.

(c) Provide the defense for debarkation sites and landing zones.

(d) Conduct counterattacks or feints.

(e) Provide stay-behind troops as required.

b. Planning and Execution

(1) The embarkation area and beaches are selected by the commander amphibious task force in consultation with the commander landing force. To achieve maximum speed in embarkation and to provide passive protection against mass destruction weapons, multiple embarkation beaches and landing zones within the embarkation area are desirable. Other factors to be considered in selecting the location and number of embarkation beaches include hydrography, distance from transport area, availability of suitable assembly areas, proximity to the landing force as a whole and the covering force in particular, and protection from enemy observation and fires.

(2) When all factors involved in the selection of embarkation beaches or the embarkation area as a whole are more or less equal, terrain may be a deciding factor in the final selection. Terrain has a decided

influence on the amphibious withdrawal. Good observation and fields of fire are desirable so that the enemy can be engaged at long ranges. Natural and artificial obstacles, including barrier systems, minefields, and demolitions, are exploited in combination with the terrain to minimize enemy interference with the withdrawal. Cover and concealment are sought for assembly areas and routes of movement to embarkation beaches.

(3) The mission of the covering force is to prevent enemy interference with the withdrawal of the main body; its size should be held to the minimum consistent with providing adequate protection. The strength and composition of the covering force may vary in different portions of the embarkation area. A unit occupying a sector protected by a formidable obstacle may leave only minimum security posts, while units under attack may be required at full strength.

(4) Supporting troops are attached to the covering force consistent with requirements. Support requirements may conflict with the requirement for early embarkation of heavy support equipment, and a careful evaluation of these conflicting requirements is necessary to effect an acceptable reconciliation. As a minimum, reconnaissance troops and engineer and medical personnel are included as part of the covering force.

(5) The requirement for supporting fires increases as the force withdraws and its capability to repel the enemy diminishes. Emphasis is placed upon maximum use of external fire support agencies, including air support and naval gunfire support. Nuclear fires may be used to forestall enemy interference.

(6) Air support requirements may include transport helicopters to accomplish part of the withdrawal, naval gunfire spotting, close air support, protection from enemy air reconnaissance, and interdiction. Forward air controllers with the covering force control airstrikes in support of the withdrawal; in the final stages, this function is assumed by the tactical air coordinator (airborne). Helicopters may be used in the withdrawal of the covering force because they can land, load, and take off in a minimum of time and at advantageous sites near the covering force battle positions.

(7) The effect of the withdrawal on logistic support must be anticipated to ensure adequate support for the operation, prevent the unnecessary destruction or loss of supplies, provide for the destruction of supplies and equipment not evacuated, and provide prompt evacuation of casualties.

(8) Movement to embarkation beaches and zones is controlled through the use of assembly areas, routes of withdrawal, initial (staff) points, and checkpoints. The plan for embarkation should emphasize speed and provide for maximum coordination between the arrival of units at embarkation beaches or zones and the arrival, loading, and departure of landing craft or helicopters. The amount of detail included in the plan is determined by the size of the operation, experience of personnel, and the time available. The following may be included:

(a) Announcement of whether the embarkation is to be in accordance with normal procedure for combat loading or for administrative loading.

(b) Designation of embarkation beaches and zones.

(c) Reactivation of the shore party element and the assignment of precise responsibilities, including an officer in charge of embarkation.

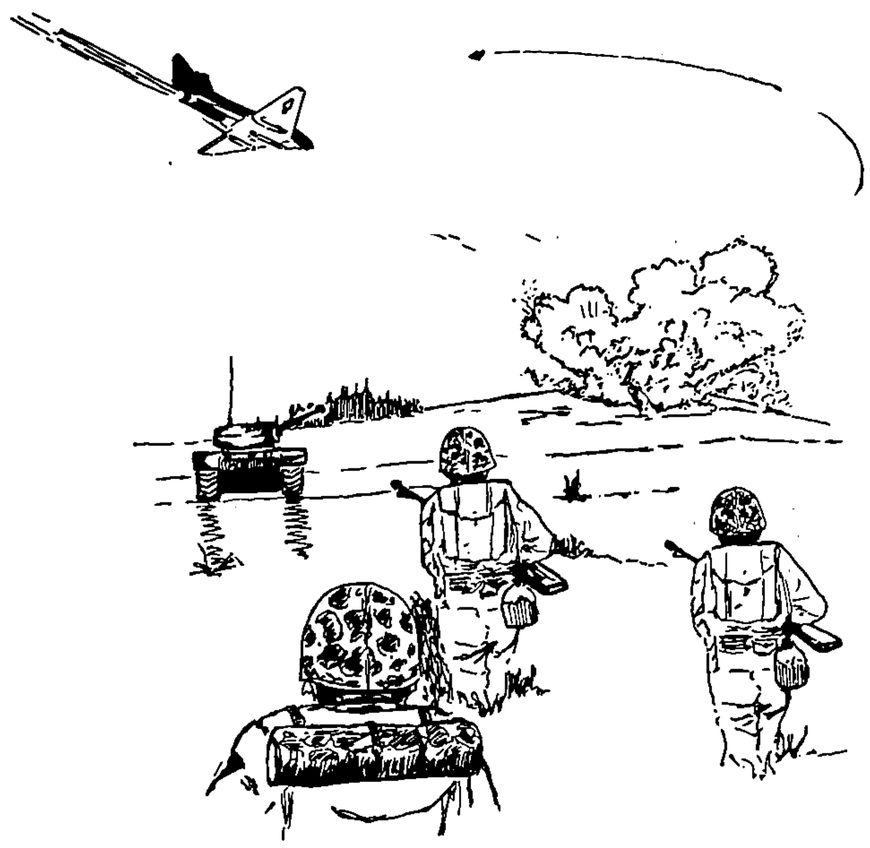
(d) Detailed instructions concerning embarkation.

(e) Schedule and priorities for embarkation.

(f) Schedule for movement of units to embarkation beaches.

(g) An evasion and escape procedure.

(9) Embarkation together with naval control agencies is controlled by the shore party. The procedures for embarkation are a combination of the procedures used during the embarkation phase and those of the ship-to-shore movement in the assault phase. The ship's platoon and embarkation personnel function as during the embarkation phase. As in the assault, the shore party controls movement of personnel, supplies, and equipment over the beach, and the Navy control group controls waterborne movement. Shore party control agencies, provided for each embarkation beach, summon and guide units from the assembly areas to the embarkation beaches and expedite loading. Combat loading, if required, is facilitated by the fact that heavy equipment and supplies which would normally be loaded first are withdrawn first as a requirement for rapid and orderly withdrawal.



CHAPTER 3

SUBSEQUENT OPERATIONS ASHORE

Section I. INTRODUCTION

3101. GENERAL

This chapter discusses tactics and techniques for the employment of the Marine infantry battalion in all land combat operations, whether the method used to arrive in the area of operations is by assault, amphibious assault, administrative movement, or any combination of these means of entry.

3102. MISSION OF INFANTRY

The mission of infantry in offensive combat is to locate, close with, and destroy or capture the enemy. The infantry accomplishes this mission by fire and maneuver. By fire, it inflicts losses on the enemy and neutralizes his combat power; by maneuver, it closes with the enemy and makes its fire more effective. The mission of infantry in defensive combat is, with the support of other arms, to repulse or destroy the enemy in front of its defensive position, to repel his assault by close combat if he reaches it, and to destroy or eject him by counterattack if he succeeds in penetrating the battalion battle area.

3103. PRINCIPLES OF WAR

The principles of war are fundamental truths governing the prosecution of war. The principles of war are guidelines to be used by a commander and his staff to effectively apply the combat power of the Marine battalion to aid in the accomplishment of the assigned mission. The effective application of these principles is essential to the proper exercise of command and the conduct of war. Although combat leaders have studied the principles, it is not enough to name them in sequence, but rather to know when and how to

relate them to the combat environment. The principles of war are included here to provide a review for the commander and his staff to be used when applying doctrine contained in this manual.

a. Principle of the Objective.--Every military operation must be directed toward a clearly defined, decisive, and attainable objective. The ultimate military objective of war is the destruction of the enemy's armed forces and his will to fight. The objective of each operation must contribute to this ultimate objective. Each intermediate objective must be such that its attainment will most directly, quickly, and economically contribute to the purpose of the operation. The selection of an objective is based upon consideration of the means available, the enemy, and the area of operations. Every commander must understand and clearly define his objective and consider each contemplated action in light thereof.

b. Principle of the Offensive.--Offensive action is necessary to achieve decisive results and maintain freedom of action. It permits the commander to exercise initiative and impose his will upon the enemy, to set the pace and determine the course of battle, to exploit enemy weaknesses and rapidly changing situations, and to meet unexpected developments. Defensive action may be forced on the commander, but it should be deliberately adopted only as a temporary expedient while awaiting an opportunity for offensive action or for the purpose of economizing forces on a front where a decision is not sought. Even during the defense, the commander seeks every opportunity to seize the initiative and achieve decisive results by offensive action.

c. Principle of Mass.--Superior combat power must be concentrated at the critical time and place for a decisive purpose. Superiority results from the proper combination of the elements of combat power. Proper application of the principle of mass, in conjunction with the other principles of war, may permit numerically inferior forces to achieve decisive combat superiority.

d. Principle of Economy of Force.--Skillful and prudent use of combat power enables the commander to accomplish the mission with minimum expenditure of resources. This principle is the corollary of the principle of mass. It does not imply husbanding but rather the measured allocation of available combat power to the primary task as well as secondary tasks such as limited attacks, the defense, deception, or even retrograde action in order to ensure sufficient combat power at the point of decision.

e. Principle of Maneuver.--Maneuver is an essential ingredient of combat power. It contributes materially in exploiting successes, providing freedom of action, and reducing vulnerability. The object of maneuver is to dispose forces in such a manner as to place the enemy at a disadvantage and thus achieve results which would otherwise be more costly in men and material. Successful maneuver requires flexibility in organization, administrative support, and command and control. It is the antithesis of permanence of location and implies avoidance of stereotyped patterns of operation.

f. Principle of Unity of Command.--The decisive application of full combat power requires unity of command. Unity of command obtains unity of effort by the coordinated action of all forces toward a common goal. While coordination may be attained by cooperation, it is best achieved by vesting a single commander with the requisite authority.

g. Principle of Security.--Security is essential to the preservation of combat power. Security is achieved by measures taken to prevent surprise, preserve freedom of action, and deny the enemy information of friendly forces. Since risk is inherent in war, application of the principle of security does not imply undue caution and the avoidance of calculated risks. Security frequently is enhanced by bold seizure and retention of the initiative, which denies the enemy the opportunity to interfere.

h. Principle of Surprise.--Surprise can decisively shift the balance of combat power. By surprise, success which greatly exceeds the effort expended may be obtained. Surprise results from striking an enemy at a time, place, and in a manner for which he is not prepared. It is not essential that the enemy be taken unaware, but only that he becomes aware too late to react effectively. Factors contributing to surprise include speed, deception, application of unexpected combat power, effective intelligence and counterintelligence including communications and electronic security, and variations in tactics and methods of operation.

i. Principle of Simplicity.--Simplicity contributes to successful operations. Direct, simple plans and clear, concise orders minimize misunderstanding and confusion. If all factors are equal, the simplest plan is preferred.

j. Summary.--The principles of war act as a checklist for the commander in order to apply combat power effectively and reduce his unit's vulnerability. A review of military history will demonstrate that those commanders who have adhered to these principles have most often enjoyed success on the battlefield. There have been, of course, exceptions to the rule; however, these exceptions prove that any attempt to rigidly apply all the principles to all battlefield environments may lead to defeat. The commander should recognize the need to apply the principles as flexibly as all other tactical principles, based on the circumstances with which he is confronted. Flexibility in the application of principles is as important as flexibility in the application of combat power on the battlefield. No commander can rigidly follow the examples provided by doctrinal resources, but must modify them according to his mission, the situation, and the terrain over which he is fighting.

Section II. TROOP MOVEMENTS

3201. GENERAL

The primary consideration in a troop movement is to ensure that troops arrive at the proper place, at the proper time, in effective fighting condition, and in the most favorable formation to accomplish their assigned mission. One of the gravest errors a commander can make is to have a portion of his troops still en route, when they are needed at the decisive point on the battlefield. Success comes to the unit which moves and concentrates its means rapidly at critical points.

3202. MOBILITY

a. Strategic movement of Marine Corps units may be accomplished in amphibious shipping or by transport aircraft. Under certain circumstances, strategic movement of Marine Corps units may commence initially by rail or truck, preliminary to movement by air or by waterborne means. The infantry battalion or BLT usually participates in these movements as part of a larger force, but it may be the sole force moved.

b. Tactical mobility is the ability to move in a combat environment and is employed to place combat power in an advantageous position in relation to the enemy. It is a product of superior training, a flexible state of mind, and the ability to exploit equipment capabilities. Use of helicopters permits the rapid movement of the battalion, with supporting arms and logistic support, over much wider ranges and over terrain previously considered impassable. Their use also permits movement of the battalion during night and day, and they furnish the battalion commander with a vastly increased flexibility in the conduct of combat operations. In this respect alone, helicopters have greatly influenced the basic nature of offensive combat. Helicopter mobility may be augmented by rapid-moving mechanized columns, combining tracked vehicle and infantry assets to move rapidly within the battalion area. During periods of adverse weather, lack of transport, or inability to move by helicopter due to the enemy situation, the battalion may be required to move on foot. However, the commander must always be alert for opportunities to capitalize on high mobility techniques.

3203. TROOP MOVEMENTS

a. General.--Troop movements are classified as either administrative or tactical. Administrative movements are conducted when the prospect of ground contact with the enemy is remote and when there are no security and secrecy requirements beyond those necessitated by the possible effects of enemy aircraft or long-range weapons. Tactical movements are conducted under combat conditions and when special security measures are required.

(1) Methods of Movement.--To accomplish its mission, the infantry battalion has the capability of planning and conducting movements by any means or combination of means. These means may include foot marches or movement by helicopter, motor transport, amphibious vehicles, landing craft, fixed-wing air transport, amphibious shipping, or by rail. Regardless of the method employed, the movement requires detailed planning and strict control so the battalion can arrive at its destination at the proper time and in condition to accomplish its mission.

(2) Standing Operating Procedure (SOP).--Planning for and the conduct of troop movements are accelerated when the basic procedures for such moves have been previously worked out and published in a battalion standing operating procedure. Routine items that can be included in the SOP are the size of march units, composition of serials, rates of movement, formations, time intervals and distances, reporting instructions, control measures, prescribed loads for individuals, heliteams, and weight restrictions in the case of helicopter or fixed-wing transport movement. Orders for a particular movement modify or amplify these SOP's to meet the requirements of a specific mission.

(3) Planning.--Planning for troop movements is complete and accurate, embracing as much detail as necessary to ensure efficient use of the means available. Normally, the plans for movement include:

(a) Organization, to include assignment of troops to the means of transportation and related plans for assembly and embarkation as applicable.

(b) Packing, marking, and loading of equipment.

(c) Provision for mess and medical care en route.

(d) Reassembly or commitment of troops upon completion of the move.

(e) Measures to ensure security and secrecy.

(f) Any necessary special communication instructions.

(g) Coordination with fire support agencies as appropriate.

(h) Routine control measures for each type of movement.

(4) Training.--Frequent training exercises for all types of movement under all conditions are essential to improve the readiness of the battalion and to perfect standing operating procedures.

b. March Techniques for Surface Movements

(1) The battalion commander issues a warning order for an overland movement as early as possible to give his staff and units maximum time for preparation. The warning order alerts the staff and units and specifies whether the move is to be made by foot or vehicular transportation, the approximate departure time, and other available and pertinent information.

(2) As soon as possible after receiving the warning order, a route reconnaissance is conducted to confirm and supplement data obtained from map studies, higher echelons, and aircraft reconnaissance. Instructions to the route reconnaissance party specifically state the extent and nature of the information required and the time and place the report is to be submitted. When time does not permit the party to complete its examination of the entire route before the march begins, it is dispatched as much in advance of the column as possible.

(3) An advance party precedes the battalion to a new designation to facilitate its arrival and reception by making necessary administrative

arrangements. The advance party usually consists of the S-1 or the headquarters commandant, a representative of the S-4, the communication officer, a representative from each company, and the necessary communication, medical, and security personnel. The headquarters commandant is responsible for posting route markers and guides along the route. The duties of the advance party include the following:

(a) Selecting the specific site for the command post (CP) if this has not been determined definitely, and arranging for its occupancy.

(b) Allotting portions of the battalion area to each company and attached units.

(c) Selecting locations for the command and administration installations.

(d) Making sanitary inspections and preparations.

(e) Guiding each unit from the release point to its assigned area.

(4) The trail party follows the march column. It includes the personnel and vehicles necessary to assist the trail officer. Specifically, the functions of the trail party include:

(a) Inspecting the departed area, and correcting and reporting any deficiencies.

(b) Preventing straggling.

(c) Placing necessary guards, flags, or lights to warn traffic approaching from the rear.

(d) Picking up guides and route markers.

(e) Disposing of disabled vehicles and their loads.

(5) The battalion column is organized into serials to facilitate control by the battalion commander and to simplify the issuance of orders. Units that occupy the same general initial location which can be governed by the same set of instructions as to initial point, route, destination, rate of march, etc., are organized in one serial.

(a) Serials are subdivided into march units. The number of march units is determined by the probable future mission of the battalion and the number of vehicles which can be controlled by a single commander during the march.

(b) Serials and march units are numbered in sequence of their expected arrival at the destination. They retain unit integrity insofar as possible.

(6) The battalion march order may be either written or oral. A complete march order designates the route, critical points, destination, schedule, rate, time intervals, formation, organization of the column, serial commanders, and other details not covered by standing operating procedures.

c. Foot Movements

(1) Even though maximum use is made of helicopters and other means of mobility, the infantry battalion's success in combat depends to a large degree on the foot-marching ability of its troops. The battalion lacks organic transportation for sustained mobility.

(2) The battalion organizes its subordinate units into tactical groupings for a foot march. The battalion normally constitutes one serial while each company constitutes a march unit. Platoons may be designated as march units when difficult conditions hinder control. Prescribed distances between march elements in the column are not rigidly maintained but are permitted to vary, thus offsetting the changes of rate within the column. Halts are normally prescribed in the unit SOP. It is desirable to halt for 15 minutes after the first 45 minutes of marching. Thereafter, a 10-minute halt should be taken after each succeeding 50 minutes of marching.

(3) A forced march is defined as a march requiring the expenditure of more than normal effort either in increased speed, increased exertion, increased number of hours marched, or a combination of these. Forced marches are normally accomplished by increasing the marching hours per day rather than by increasing the rate of march. Forced marches are undertaken only when necessary because they decrease the efficiency of units.

d. Vehicular Movements

(1) The infantry battalion will require external support to execute a movement by vehicle. Normally, a motor transport company or an amphibious tractor company is considered adequate to move an infantry battalion. See FM 55-30, Army Motor Transport Operations, and EMEM 6-1 Marine Division, for details of planning.

(2) If the battalion is participating in a regimental movement, the battalion commander is ordinarily given the following information:

(a) Number and type (or capacity) of the vehicles.

(b) The regulating points and times at which the vehicles pass to and from his control.

(3) The battalion motor transport officer and guides from subordinate units of the battalion meet the incoming vehicles at the regulating point and dispatch them to the units to be transported.

(4) Supervision of the vehicle column is accomplished in the following manner:

(a) The battalion commander moves where he can best control the column.

(b) Helicopters and/or liaison type aircraft may be used for control or liaison.

(c) Serial and march unit commanders usually move at the head of their respective units; however, there is no fixed location for unit

commanders. It is normal to have an officer at the head of each serial or unit to lead the unit over the prescribed route at the designated speed.

(d) Military police may be used to assist in traffic control. They can enforce movement priorities, transmit orders, pass information, and control other traffic.

(5) Serials and march units are separated by time intervals prescribed in the battalion SOP or in the march order.

(6) Scheduling and length of halts are normally established in the battalion SOP or the march order. All march units halt simultaneously and vehicles clear the roadway. Personnel are stationed at the head and tail of each march unit to control passing traffic. At prolonged halts, locations off the road are selected to permit dispersion and to take advantage of cover and concealment.

(7) Communications within the battalion column are normally by radio, messengers, and visual and sound signals. When the battalion is a serial in a vehicular movement conducted by the regiment, the communication procedures are normally governed by the regimental SOP.

e. Rail Movement

(1) Orders directing a movement by rail indicate the point of entrainment, the date and time of arrival of troops for loading, arrangements for loading of equipment, the destination, and the purpose of the movement. The battalion commander is responsible for the preparation of plans and tables regulating the entrainment and departure of the elements of his command. Details of the move are coordinated with the transportation officer of the area in which the movement originates. In an area of operations, all contacts with civilian or foreign railroads are made through the appropriate transportation officer.

(2) Upon receipt of the movement order, the battalion commander, through members of his staff:

(a) Gives full, written details of the movement to the local transportation officer who arranges for the necessary rail transportation.

(b) Appoints a train commander.

(c) Dispatches an advance party that:

1 Prepares car assignments.

2 Arranges for messing.

3 Arranges for the unloading of supplies in the vicinity of the railroad and subsequent loading aboard the train.

4 Establishes security measures.

f. Movements by Air

(1) Helicopter Movement

(a) The infantry battalion is completely helicopter transportable.

(b) Planning for helicopter movement is generally the same for administrative and tactical movements. Details concerning planning for tactical movement by helicopter may be found in paragraph 3411. Administrative movements by helicopter place primary emphasis on the most efficient use of available helicopters, and security requirements are only those necessitated by enemy long-range weapons and aircraft. Many of the items necessary for planning can be included in the battalion SOP.

(c) Planning for helicopter movements normally includes the following considerations:

1 Timely notification of the planned movement and liaison with the supporting unit.

2 Organization of troops and equipment for the move (may be SOP).

3 Assembly of the troops and helicopters.

4 Heliteam assignments (may be SOP).

5 Influence of weather, visibility, and terrain.

6 Control measures.

7 Provisions for security en route and in the landing zones.

8 Coordination with other air operations and with fire support.

9 Reassembly of personnel and equipment after landing.

(d) Staff responsibility for troop movements is vested in the S-3 and he coordinates with other staff members as required.

(e) In operations ashore, requests for helicopter support are normally submitted through the chain of command. In certain situations, designated helicopter units may be placed in support of the battalion. In this case, the commander of the supporting helicopter unit or his representative is made available for consultation, recommendations, and direct liaison.

(f) Request for helicopter support includes:

1 Location of recommended loading sites.

2 Location of recommended landing sites.

3 Number of troops and weight of equipment and supplies to be lifted. (Current usage data figures on various troop loadings will be kept by the S-4.)

4 Breakdown of heavy lift items.

5 Degree of tactical integrity required.

6 Time move should be completed.

7 Urgency of request.

8 Amount of resistance expected during the move and on landing.

9 Additional helicopter requirements for wire laying, observation, reconnaissance, and command groups.

(g) For detailed information concerning planning for helicopter movements, see FMFM 3-3, Helicopterborne Operations.

(2) Movement by Fixed-Wing Aircraft.--The infantry battalion is capable of, and must at all times be prepared for, movement by fixed-wing air transport. The battalion is completely air transportable.

(a) Air movement of the battalion may be required in a variety of situations. The battalion may be air lifted to troubled areas in operations short of war. It may be part of a larger Marine combat unit involved in strategic deployment by air. It may be in the role of a replacement battalion flown into the objective area to replace units of the landing force. It may be involved in routine unit replacement by air in peacetime.

(b) Administrative movements by fixed-wing aircraft are primarily concerned with maximum utilization of space; whereas, in tactical movements, the tactical integrity of the battalion and its planned employment are of prime importance. Planning for both is generally the same; however, tactical moves require more detailed planning.

(c) Planning considerations are generally the same as for helicopterborne movements, taking into account the difference in aircraft employed. The battalion is normally moved into a staging area near the departure airfield. It remains in the staging area long enough for the battalion commander to accomplish final coordination.

(d) Aircraft should be loaded to:

1 Maintain unit integrity as completely as possible.

2 Distribute key personnel and equipment among several aircraft.

3 Ensure that towed loads are enplaned with a prime mover.

4 Provide sufficient personnel in each aircraft to unload the aircraft upon arrival at the destination.

5 Ensure that each load is balanced safely.

Section III. OFFENSIVE OPERATIONS

3301. GENERAL

a. The battalion executes its offensive mission--the attack--by a combination of firepower and maneuver. Firepower is provided by organic and supporting weapons. Maneuver is accomplished by rapid movement of the rifle companies and attached or supporting units, utilizing a variety of means of mobility. The rifle companies, moving under the protection of supporting firepower or exploiting its effects, engage the enemy in close combat.

b. The purpose of offensive operations is to accomplish one or more of the following: destroy enemy forces, deprive the enemy of required resources, seize terrain, develop enemy dispositions, and divert the enemy's attention from other areas.

(1) An infantry force in the offensive is most apt to be assigned a mission of seizing a terrain objective. Because of this, there is sometimes a tendency to overlook one of the other primary purposes of offensive operations--to destroy the enemy forces. This consideration should not be forgotten.

(2) The other purposes of the offense, other than destroy enemy forces, essentially derive from tactical considerations; e.g., the skillful disposition and maneuver of forces to gain the ultimate "decision" over the enemy.

(3) Offensive operations may also be conducted to develop the situation prior to an attack, to deprive the enemy of required resources as in a turning movement, or to divert his attention as in a supporting attack to a main effort.

(4) The tactically successful commander normally attempts to accomplish more than one of these purposes at the same time and by the same operation and does not limit his efforts to the mere possession of terrain.

c. The fluid nature of combat can create sudden and drastic changes in the tactical situation. Increased mobility and firepower will allow regiments and battalions to operate independently or semi-independently. As a result, the traditional frontlines between enemy and friendly forces often disappear. Battalions probably will be operating over much wider areas of the battlefield using the inherent mobility of the helicopter and tracked vehicle units to overcome terrain previously deemed unsuitable for tactical operations.

d. Characteristics of the modern battlefield have levied certain essential requirements. They are:

(1) Lighter, smaller, but more efficient weapons and equipment.

(2) Increased self-sufficiency of small units.

(3) Increased capabilities of communication means.

(4) Greater decentralization of authority and greater exercise of initiative by subordinate commanders.

(5) Improved intelligence collection and production.

(6) Increased mobility for infantry battalions for application of combat power over a greater portion of the battlefield.

e. For offensive warfare such as jungle, desert, and mountain operations; operations in cities; and deep snow and extreme cold, see FMFM 8-1, Special Operations; for doctrine on counterguerrilla warfare, see FMFM 8-2, Counterinsurgency Operations; and for doctrine on riverine operations, see EMEM 8-4, Doctrine for Navy/Marine Corps Joint Riverine Operations.

3302. FUNDAMENTALS OF OFFENSIVE TACTICS

The fundamentals of offensive tactics are general rules evolved from logical and time-proven application of the principles of war to offensive operations.

a. Gain and Maintain Contact.--This fundamental is applicable when a force is not in contact with the enemy or when the enemy is attempting to move toward or away from the force. As a matter of first priority, contact with the enemy must be gained and maintained to prevent surprise and to obtain information which facilitates future operations. Once gained, contact with the enemy is not voluntarily broken without authority from higher headquarters, but it may be maintained by observation alone.

b. Develop the Situation.--Developing the situation is closely allied to "gain and maintain contact" and consists of those actions necessary to determine the strength, location, composition, and disposition of the enemy that has been encountered. Once physical contact with the enemy is gained and resistance is encountered, immediate and rapid reconnaissance is employed to overcome enemy security forces and to determine the strength, location, composition, and disposition of the enemy's main defense position. This action provides the commander with accurate information for his continuing estimate of the situation, prevents premature deployment of the main body, and permits engagement of forces under the most favorable circumstances.

c. Exploit Known Enemy Weakness.--In situations created by opposing maneuvering forces, each seeking a tactical advantage, the commander avoids enemy strength and reacts with maximum speed and sufficient combat power to take advantage of known enemy weakness to enhance success. Weakness from faulty dispositions, poor morale, insufficient support, or tactical error, as well as numerical strength, should be exploited.

d. Seize or Control Key Terrain.--The accomplishment of the offensive mission is often dependent upon the early control or neutralization of key terrain. However, the possession of key terrain is only important as far as the advantages accruing therefrom are exploited to destroy the enemy or to deny him the use of these features.

(1) The commander seeks to dominate key terrain features which give an advantage of observation, concealment and cover, and fields of fire; which enhance maneuver and support; which control routes required by friendly and enemy forces; which allow control without placing forces in static positions; or which afford additional security.

(2) In any zone of action, there are apt to be several key terrain features. When planning the tactical maneuver of his forces, the commander normally determines that key terrain or portions thereof which, if seized or neutralized, will produce decisive results. He then concentrates his forces toward the seizure, destruction, or neutralization of that area. Early control of such key terrain permits seizure of the objective area, facilitates destruction of the enemy force, and normally is the objective of the main attack.

(3) Other terrain features outside the zone of action which offer a marked advantage to either friendly or enemy forces are key terrain. The commander ensures control of these terrain features through coordination with friendly adjacent units.

e. Retain the Initiative.--A paramount objective of the commander in the offense is to seize and retain the initiative by which he can apply his resources at will to influence the action. Bold and aggressive employment of overwhelming combat power, the achievement of surprise, or the exploitation of enemy errors or weaknesses--all these serve to gain the initiative. Surprise is always sought. It may be gained by choosing an unexpected time, place, direction, type, or strength of attack. It is enhanced by deception, maneuver, and mobility. Once the initiative is gained, every effort is expended to retain it. Once lost, the initiative may be difficult and often costly to regain.

f. Neutralize Enemy Capability to React.--Every effort is made to disrupt and neutralize the enemy's capability to react to the commander's tactical dispositions and maneuver. Isolation of the battlefield and destruction or interference with support and reinforcement actions reduce the enemy's responsiveness, enhance the security of friendly forces, and assist in gaining and retaining the initiative.

g. Advance by Fire and Maneuver.--Fire and maneuver is a method of attack in which one element of a command moves while being supported by the fire of another element or elements. The mission of the maneuvering force(s) is to close with and destroy the enemy with fire and shock effect, and therefore is the more decisive element. The mission of the fire support force is to minimize the enemy's capability to interfere with the movement of the maneuver force(s) and, within its capabilities, to neutralize or destroy the enemy.

h. Maintain Momentum.--Once the attack is launched, every effort is made to gain and maintain momentum until the objective is secured; flexibility and speed in the employment of combat power are paramount. The commander attempts to gain the objective in the shortest possible time. Since the attack normally advances unevenly and is more successful in some places than in others, no attempt is made to keep units on line in the attack or to adhere closely to a preconceived plan of attack. Forward movement is not delayed to preserve alignment of units, and every effort is made to drive forward hard at those points where the attack gains ground most easily. Under these circumstances, one unit may assist the advance of an adjacent one, especially by fire to the flanks. Enemy forces that are incapable of jeopardizing the accomplishment of the mission are bypassed or contained with minimum forces. Pressure, applied night and day against a weakening enemy, denies him respite from battle, the ability to execute an orderly withdrawal, the opportunity to recoup losses, or the opportunity to gain the initiative. Failure to capitalize on opportunities will result

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in slow, inconclusive attacks in which the attacker usually will suffer heavy losses.

i. Concentrate Superior Combat Power at the Decisive Time and Place.--Successful offensive action requires the massing of superior combat power at the decisive place and time and the rapid application of this power to destroy the enemy. In the attack, this involves three principal tasks: holding the enemy in position, maneuvering against him to gain an advantage, and at the decisive time, delivering an overwhelming attack to destroy him. In this last task, the maneuver elements and fires are massed, and if necessary, the reserves committed to generate the maximum possible combat power and overwhelm the enemy. When it becomes necessary for the commander to concentrate his forces, he does so only at the decisive point, in proximity to the enemy, and for the shortest possible time. Speed is essential to success since the necessary concentration of forces for the attack tends to present a lucrative target, particularly in nuclear warfare.

j. Exploit Success.--Because combat power is relative, commanders on their initiative seek to take advantage of any information, tactical success, or advantage occurring during the attack. Speed of action and reserve combat power are required. The attack plan is vigorously executed and all favorable developments exploited. Failure is not redeemed. If the attack lags in one portion of the zone, the weight of the attack is shifted to the area offering the greatest opportunity for success. The most decisive results are obtained when strong, highly mobile, self-contained forces are committed to exploit the advantage by attacking objectives deep in the enemy rear, by capturing key terrain features which deny the enemy the use of his lines of communication, and by destroying or disrupting combat support and combat service support units and installations.

k. Provide for the Security and Integrity of the Force.--Security is always necessary, whether a force is in bivouac, on the march, or in combat. All units are responsible for their security, regardless of the security provided by other units. Actions required are often dictated by the proximity of the enemy; i.e., whether contact is remote, improbable, or imminent. However, actions taken should not unnecessarily divert forces or effort from the mission of the force being secured. Security is achieved by providing for detection of the threat; sufficient time and maneuver to react to the threat; and for the avoidance, neutralization, or destruction of the threat. Integrity involves maintaining the command as an effective fighting force. The commander ensures that his forces are not divided so that they may be defeated in detail and that essential support is available to his force.

3303. BASIC CONSIDERATIONS OF OFFENSIVE ACTION

a. Mission.--The mission is a task together with its purpose. A statement of the mission clearly indicates the action to be taken and the reason therefor (purpose and reasons for a mission assigned to a battalion or the battalion mission to subordinate units is not necessarily reflected at this level). The battalion commander assigns missions to attacking companies which focus attention on the battalion objective(s). By assigning physical objectives, by designating the direction of attack and, if applicable, time of attack, and by allocating means, the battalion commander controls the operation and ensures that the attacks of subordinate units are coordinated and contribute to the accomplishment of the mission of the command as a whole.

b. Enemy Situation.--In the planning stage, all of the enemy's capabilities are considered and provisions are made to counteract those which can prevent or hinder the accomplishment of the mission.

c. Reconnaissance and Surveillance.--Of great importance to the battalion commander is the capability of securing timely and accurate information and target acquisition. These may be obtained through either organic or external sources.

d. Terrain

(1) General.--Seizure of terrain is a key element in controlling a battle at the battalion level because the battalion is normally assigned missions which require the seizure or control of specified areas or terrain objectives. In the event nuclear weapons are employed in support of the battalion, terrain, vegetation, cultural features, and soil composition are factors which may influence the nuclear effects desired and, in turn, the scheme of maneuver of the battalion. Likewise, terrain affects possible enemy courses of action.

(2) Military Aspects of Terrain

(a) Cover and Concealment.--While all of the military aspects of terrain are important when formulating the plan of attack or plan of defense, the careful analysis of cover and concealment is extremely important. Commanders skillfully take advantage of existing cover and concealment to prevent undue casualties from enemy fires, to effect surprise, to restrict observation of friendly movements and strength, and to exploit the terrain in execution of the scheme of maneuver. Likewise, careful consideration is given to cover and concealment as it is used by the enemy and how it may affect his possible courses of action.

(b) Observation.--Observation directly determines the effectiveness of supporting weapons and influences the dispositions, protective measures, selection of objectives, and control of attacking companies. The availability and utilization of helicopters and observation aircraft reduce to some degree the requirement for securing and holding high ground for observation purposes alone. Enemy ground observation may be neutralized by supporting fires when the terrain which provides the observation point is not essential to the scheme of maneuver.

(c) Obstacles.--Ground movements or maneuvers can be seriously impeded by obstacles, unless measures are employed to cross, destroy, or bypass them. Failure to take adequate measures to overcome a major obstacle may allow a small force to canalize and delay movements of a larger force. Every effort to overcome the effect of obstacles is made, including exploitation of surface vehicles, increased amounts of supporting fires, maximum use of reconnaissance and surveillance units, use of helicopters, and careful evaluation and preplanning. The helicopter provides the capability of flying over or around obstacles. Obstacles, if properly exploited, can assist in canalizing an enemy attack, provide flank protection, prevent or canalize enemy armored attacks, and prevent or delay the maneuver of major enemy forces.

(d) Key Terrain.--The battalion plan of attack is directed toward rapid seizure or control of those key terrain features essential to accomplishing the mission and maintaining the speed and momentum of the

attack. Key terrain is controlled by securing the approaches to it; by maintaining surveillance over it; by occupying it with minimum forces, when necessary; and under proper conditions, by neutralizing it by fire or smoke. Heavy concentrations of troops on a dominant terrain feature, however, facilitates location by enemy targeting agencies.

(e) Avenues of Approach.--Avenues of approach are selected which best provide for rapid movement of the battalion to its objective, afford cover and concealment, and provide sufficient maneuver room for the subordinate elements of the battalion. At times, a less desirable avenue of approach may, if selected, enhance the chance of achieving surprise. Avenues of approach may also be the major areas of the enemy's defensive efforts.

(3) Weather.--Weather conditions affect terrain trafficability, delivery of observed fire support, and conduct of helicopter operations. Adverse weather reduces both ground and air mobility, which may dictate a plan of attack less desirable. Conversely, adverse weather may provide the opportunity to launch an attack, exploiting concealment of movement and surprise. Employment of nuclear munitions is greatly affected by the conditions of weather which make it imperative that the commander have accurate and timely weather information.

e. Combat Power

(1) In the offense, combat power is derived from a combination of troop strength, mobility, firepower, logistic support, and tactical skill. Successful offensive operations of the battalion require the development of a superior ratio of combat power over the enemy at the decisive time and place. The battalion commander must determine the relative combat power required in a given situation. In arriving at this determination, he considers the following factors:

(a) The mission assigned by higher authority and the type of operation he plans to conduct to accomplish the mission. An attack designed to rupture a defensive position requires a different balance of power than an attack directed around the most forward enemy defenses to seize objectives deep in his rear.

(b) The enemy situation must be closely studied to determine weaknesses in strength, dispositions, capabilities, and tactics. Enemy combat power is reduced by the battalion capitalizing on enemy weaknesses detected.

(c) Terrain characteristics often contribute materially to the degree of combat power required as more force is required against an enemy occupying highly defensive terrain than is required against an enemy occupying terrain difficult to defend. Tactical surprise can be achieved by a battalion attacking over terrain so difficult that an attack is not expected by the enemy. Care is taken to ensure that attacks such as these are carefully planned and rehearsed.

(d) The ability to maintain the momentum of the attack is an important element of combat power. The battalion commander must employ his fires and his reserve to sustain the momentum of his attack. Normally, less effort is required to maintain momentum than is required to regain it once it is lost.

(e) Mobility provides the battalion commander flexibility in selecting and shifting the area for application of combat power. Superior mobility, particularly that provided by helicopters, increases the tempo and facilitates the phasing of the battalion attack.

(f) Timing of the attack is planned to augment combat power by forcing the enemy to fight at the time and place of the attacker's choosing. Rapid and bold decisions and speed of maneuver are essential elements in the attack. Timing of the attack is planned to exploit the maximum effects of friendly supporting fires. The battalion commander guards against establishing a set pattern as to timing of attacks. The enemy is kept off balance by attacks launched at any time of day or night, or under any kind of weather conditions.

(g) The state of training of the battalion will influence its overall combat power. A well-trained, highly-disciplined battalion can accomplish missions which cannot be accomplished by a battalion which possesses a lesser degree of combat efficiency or state of training.

(h) Positive and dynamic leadership at all echelons of command within the battalion is essential to achieve the maximum effect from the combat power available. Large areas of responsibility, loss of communications, the fluid nature of the battlefield, and the threat of enemy nuclear attack place great responsibility on subordinate commanders for independent thought and action. Mission-type orders are normal procedure. Company commanders may be assigned broad tasks and perhaps a priority of accomplishment. They must be capable of carrying out these tasks with a minimum of direction. The very nature of the battlefield may often require decentralized execution of operations. Succession of command must not disrupt the attack.

(i) Superior equipment, high standards of maintenance, adequate supplies and materiel, combined with efficient logistic procedures, increase the capability of the battalion for sustained combat.

(2) Weighing of relative combat power also includes evaluation of relative vulnerabilities. Vulnerability to hostile fires must be a prime consideration of all commanders, friendly or enemy. The battalion commander attempts to reduce the vulnerability of his own unit by dispersion of maneuver elements; proper use of terrain, cover, and concealment; and by applying combat power at the point of the enemy's greatest vulnerability.

(3) When authorized by higher authority and employed in support of the battalion, nuclear fires and nonincapacitating riot control chemical agents may reduce the number of troops needed to attain the desired combat power differential.

f. Distribution of Forces.--To achieve the required superiority in the attack of a selected area, the battalion commander determines the most effective distribution of his forces. Normally, forces are divided into a main attack, supporting attacks, and reserves. If their use is authorized, allocation of nuclear fires is an important factor in determining the distribution of forces required.

(1) Main Attack.--The main attack is designed to accomplish the primary tasks assigned to the battalion. The battalion commander, while analyzing his mission and conducting map and/or visual reconnaissance, will determine that there are certain decisive terrain features, which, if

captured or controlled, will facilitate the accomplishment of the mission. These features are then assigned to the main attack force in the form of objectives. The main attack force is:

(a) Organized with the preponderance of the battalion's combat power.

(b) Assigned a narrow zone of action in order to concentrate superior combat power on the decisive objective.

(c) Given depth by the positioning of the reserve so that it may rapidly reinforce the main attack or to exploit an advantage developed by the main attack.

(d) Characterized by rapid and aggressive movement towards the assigned objective.

(2) Supporting Attack.--The supporting attack is an attack which is designed to aid, protect, and/or complement a main attack. The commander allocates the minimum necessary offensive power to the supporting attack. It may deceive the enemy as to the location of the main attack, seize terrain which facilitates the maneuver of the main attack, contain the enemy in an area, or induce the enemy to dissipate his combat power outside the decisive area. Companies and supporting fires assigned to the supporting attacks should:

(a) Be of sufficient strength to permit accomplishment of the assigned mission, without reduction of combat power available for main attack or reserve forces.

(b) Deceive the enemy as to the location of the main attack.

(3) Other Considerations.--The battalion operation order does not indicate the units executing the main or supporting attacks. Unexpected developments frequently cause the battalion commander to change a supporting attack to the main attack.

(a) The battalion commander orients the bulk of his means in the direction which indicates the greatest possibility of success, with the most decisive results and minimum losses.

(b) In those instances where insufficient information is available to the battalion commander to decide where to launch the main and supporting attacks, he may attack with equal strength, or utilize a column formation attacking in depth, until such time as the situation becomes more clear.

(4) Reserve.--A reserve is constituted to provide flexibility, security, and a means of influencing the action. It consists of the combat, combat support, and combat service support elements which the commander deems necessary to lend depth to the main attack force, and should have sufficient mobility to move rapidly to the point of employment. See paragraph 3306 for a discussion of missions assigned the reserve.

g. Mobility

(1) The Marine infantry battalion must have the ability to readily move about on the immediate battlefield. Mobility is achieved in three principal ways:

(a) Using all available assets, primarily tracked vehicles and helicopters, to achieve rapid maneuver and the ability to move combat units over terrain otherwise considered impassable.

(b) Decreasing the logistic burdens for combat units and lessening the load of the individual Marine.

(c) Improving communications and control.

(2) Tactical mobility is of paramount importance when applying combat power on the immediate battlefield. With the means of obtaining higher mobility currently in the Marine Corps inventory, the commander must ensure that he plans for the application of combat power over wider ranges of the battlefield. Mobility reduces the time of exposure to enemy fires and observation and the enemy's reaction time. It enhances the commander's ability to exploit success or take advantage of enemy weaknesses. The ability to maneuver direct support artillery units rapidly by means of helicopter allows the commander to maneuver his infantry forces over wider areas while maintaining the ability to support them by fire with heavier caliber, indirect fire weapons. The employment of armed helicopters to protect flanks and the increased land employment of amphibious vehicles, in conjunction with helicopterborne movements, provides the commander greater flexibility in selecting the direction of the attack and in adding depth to the battlefield.

(3) For information on troop movements, see section II, chapter 3.

h. Unit Separation.--Units, including the battalion, may be separated by distances appropriate to demands of security, concealment, and mutual support, with consideration given to the arms and tactics of the enemy. See paragraph 1106 for nuclear considerations.

i. Surprise and Deception

(1) General.--Tactical deception is activity by a commander to mislead an enemy. It embraces deception which is local in character and which is sustained over a relatively short period of time in support of a well-defined tactical mission. The actions taken are designed to mislead an enemy by manipulation, distortion, or falsification of evidence in order to induce him to react in a manner not in his own interest.

(2) Purpose.--Tactical deception is employed by a commander to assist him in the accomplishment of his tactical mission with a minimum loss of personnel, time, and material. It is applicable to defensive and retrograde operations as well as to offensive operations. It usually is employed to offset an enemy advantage in personnel, equipment, and tactical disposition; to assist in achieving maximum surprise; and to cause the enemy to:

(a) Reveal his strength and dispositions.

(b) Redispose his forces in a manner favorable to friendly operations.

(c) Expend his effort, including nuclear weapons, on unprofitable targets.

(3) Types.--Types of deceptive measures normally utilized by the battalion are feints and demonstrations.

(a) Feint.--A feint is a show of force intended to mislead the enemy. It normally consists of a shallow, limited objective attack executed by a small portion of the total force. A force executing a feint is normally expected to hold any terrain seized, and should it develop an unforeseen tactical opportunity, the advantage gained may be exploited.

(b) Demonstration.--A demonstration is an attack or show of force on a front where a decision is not sought, made with the aim of deceiving the enemy. A demonstration may be offensive or defensive in nature and may include movement of elements of the battalion or materiel, employment of supporting fires, false communication traffic, and other activities that serve to deceive the enemy.

(4) Considerations.--Considerations involved in planning and executing tactical deception include:

(a) Every combat deception plan must be approved by the next higher commander, who effects the necessary coordination to ensure that the plan does not compromise other deception plans or operation plans of higher or adjacent units. Any deception plan contains some degree of calculated risk to the tactical mission; this risk must be carefully evaluated. The tactical plan should not be jeopardized in the event of the failure of the deception plan to attain its objective.

(b) The means of deception are unlimited. Those employed should make the most of ingenuity and available resources. Effectiveness depends more upon variety in application than it does on the number of times employed. Repeated or stereotyped employment of a particular method or means quickly compromises its usefulness.

(c) The success of tactical deception is predicated on the ability of the deceiver to predict probable enemy reaction. Units employing deception must be able to determine the enemy's susceptibility to deception and to estimate the probable accuracy of the enemy's intelligence of the current situation.

(d) Tactical deception calls for the highest measure of security. Information concerning the deception plan is disseminated strictly on a need-to-know basis. A determination is made of those individuals and subordinate units essential to create a general atmosphere of realism and, at the same time, minimize the chance of compromise. No mention of intended deception is made in operation orders or in electronic transmissions.

j. Security

(1) The purpose of security in offensive operations of the battalion is to preserve secrecy and to gain and maintain freedom of action. Success of the battalion attack may depend, to a large measure, on the degree of secrecy prior to and during the attack. Frequently, an aggressive attack carried out rapidly will provide the most effective security.

(2) Knowledge of contemplated operations is disseminated only to those whose duties require it. While the company commanders may receive the information well beforehand to give them time for necessary planning, individuals in the assault units are told only long enough in advance to prepare them for their part in the action.

(3) Unit separation, individual dispersion, and concealment are all important security measures. Continuous movement toward the objective and avoidance of undue concentration also add to the security of the battalion.

(4) In helicopterborne assault operations, security of the landing zone and sites within the landing zone is essential to the success of the battalion mission. Troops landing in the initial waves are usually assigned missions designed to secure the landing zone. Terminal guidance teams precede the landing, and continuous aerial reconnaissance is maintained over the area surrounding the landing zone.

(5) Passive security against hostile air and nuclear attack is provided by dispersion of individuals, separation of units, maximum use of camouflage, and the use of covered and concealed routes of approach.

3304. TYPES OF OFFENSIVE OPERATIONS

a. General.--In offensive operations, there are three tasks to be performed in carrying the battle to the enemy: locating and holding the enemy in position; maneuvering against him to gain a tactical advantage; and, at the decisive time and place, delivering an overwhelming attack to destroy him. In order to accomplish these tasks, five general types of offensive operations have evolved: movement to contact, reconnaissance in force, coordinated attack, exploitation, and pursuit. In general, these five basic tactical operations encompass all conceivable types of offensive operations; e.g., the night attack is normally regarded as a coordinated attack.

b. Movement to Contact.--Movement to contact is a tactical operation to gain initial contact with the enemy or to regain lost contact. The purpose of a movement to contact is to gain contact and provide for early development of the situation in order to provide an advantage over the enemy prior to decisive combat. It is a movement conducted to place troops in an advantageous position to engage the enemy. It is normally conducted on a broad front in multiple columns, although a single column may also be used. Imminence of enemy contact, knowledge of enemy strength and dispositions, and required speed of movement largely determine which method is used.

c. Reconnaissance in Force.--The most rapid means of developing the situation is the reconnaissance in force. A reconnaissance in force is an attack by a considerable force to discover and test the enemy's dispositions and strengths (or weaknesses) or to develop other intelligence. The primary aim of this type of offensive operation is reconnaissance. It is designed to develop the situation rapidly and in more detail than other reconnaissance methods which a commander may use. Normally, it is used when there is an urgent need for additional information concerning the enemy and when the efficiency, speed, and availability of other collection agencies is inadequate. In deciding to reconnoiter in force, the commander weighs the urgency and importance of the needed information against the possibility that the reconnaissance may disclose future plans to the enemy or that it may lead to a general engagement under unfavorable conditions. Two general methods may be used: either a limited objective attack or a raid.

d. Coordinated Attack.--The two types of offensive operations discussed above are preliminary in nature. They are conducted either

to gain contact with the enemy or to develop the situation. Once these stages of offensive operations have been accomplished, the next logical step is to attack. A coordinated attack is a deliberate attack that is normally planned in detail and undertaken most frequently after thorough reconnaissance, methodical evaluation of relative combat power, acquisition and development of targets, and an analysis of all other factors affecting the situation. It is an offensive operation designed to destroy the enemy, and it is usually conducted after the situation has been thoroughly developed and when a well-organized enemy position or a fortified area must be destroyed or penetrated. It requires the use of a combined arms force consisting of a maneuver element (infantry or tanks and infantry), a fire support element (artillery and organic mortars in the base of fire), and all other available combat support (aviation, engineers, etc.).

e. Exploitation.--The exploitation is an offensive action, usually following a successful penetration or envelopment, characterized by rapid advances against lessening resistance. Its purpose is to destroy the enemy's ability to reconstitute and conduct an organized defense. Forces executing the exploitation are directed to seize key terrain features in the enemy rear which deny the enemy the opportunity to reconstitute his defense. Objectives assigned by higher echelons usually involve cutting lines of communication and destroying enemy reserves, armor, and artillery. While individual local exploitations may appear insignificant, their cumulative effects may be decisive. The exploitation is usually initiated when the enemy force is having recognizable difficulty in maintaining his position. For all practical purposes, the exploitation is a continuation of a successful attack taking advantage of the success achieved by following up the initial gains. The exploitation requires bold, aggressive action on the part of all commanders, particularly small-unit commanders. A higher degree of risk should be accepted. Personnel and equipment should be pushed to the limit of their endurance.

f. Pursuit.--The pursuit is an offensive action against a retreating enemy force. It consists entirely of direct pressure forces (as in a frontal attack) or a combination of direct pressure and encircling forces (as in an envelopment). It is the final phase of the exploitation and occurs when the enemy has lost his ability to operate effectively and attempts to disengage. It differs from the exploitation in that its primary purpose is to complete the destruction of the enemy force, which is in the process of disengaging, rather than prevent the enemy force from organizing a defensive position. Although a terrain objective may be designated, the enemy force itself is the primary objective. The pursuit is normally initiated on approval of higher headquarters.

3305. FORMS OF OFFENSIVE MANEUVER

a. General.--Offensive maneuver is the movement made to place combat power in an advantageous position with respect to the enemy, to close with him, and to destroy him. Although maneuver is made with respect to the enemy, the ability to maneuver is closely related to battlefield initiative. The initiative lies with the attacker so long as he retains freedom of action to select the time and place of the engagement. In the final analysis, the tactical advantage being sought through maneuver is the disposition of the friendly force in such a manner as to facilitate the destruction of the enemy.

(1) The commander may orient his attack on the front, flank, or rear of the enemy. Helicopterborne operations that place forces on the enemy's flanks or in his rear can be used during all forms of maneuver.

(2) The basic forms of maneuver are the envelopment, the penetration, and the frontal attack. The envelopment and the penetration are the primary forms of maneuver employed by the battalion. The double envelopment, turning movement, and encirclement are variations of the envelopment, and the battalion normally participates in these as part of a larger force.

(3) The distinction in the form of maneuver employed by the battalion exists primarily in the intent of the battalion commander, since his subordinate units may use other forms of maneuver.

(4) A higher commander seldom dictates the form of maneuver to be adopted by the battalion. The mission assigned, including the tasks derived from it, and the requirement for secrecy may impose limitations in time and direction of attack, thus indicating a form of maneuver to be adopted.

(5) The mission of the battalion, characteristics of the area of operations, disposition of opposing forces, and relative combat power of opposing forces are analyzed to determine the best form of maneuver. Normally, terrain, time available, friendly dispositions, ability to support the attack, and the enemy situation are the principal factors in determining the form of maneuver.

b. Frontal Attack.--The frontal attack is a form of maneuver in which the attacker strikes the enemy all along his front by the most direct route. The frontal attack is used to overrun and destroy or capture a weaker enemy in position or to fix an enemy force in position in support of a main attack conducted elsewhere. Subordinate units of a force conducting a frontal attack are not restricted to being on line or conducting frontal attacks themselves. During a frontal attack, the commander seeks to create or take advantage of conditions that will permit a more decisive penetration or envelopment of the enemy defensive positions. (See fig. 30.)

c. Penetration.--In the penetration, a powerful main attack passes through the enemy defensive positions on a narrow front while one or more simultaneous supporting attacks exert pressure on a broad front to deceive the enemy and hold him in place. The purpose of the penetration is to divide the enemy force and defeat it in detail.

(1) The penetration usually progresses in three stages (see fig. 31):

(a) Rupturing.--The forward enemy defensive positions are ruptured to make a gap through them to the enemy rear.

(b) Widening.--The gap through the enemy defensive positions is widened to permit the employment of follow-on forces.

(c) Seizing.--Objectives in the enemy rear are overrun or seized to destroy the continuity of the enemy defense.

(2) The main attack is characterized by a preponderance of combat power organized in depth. A leading force and one or more follow-on

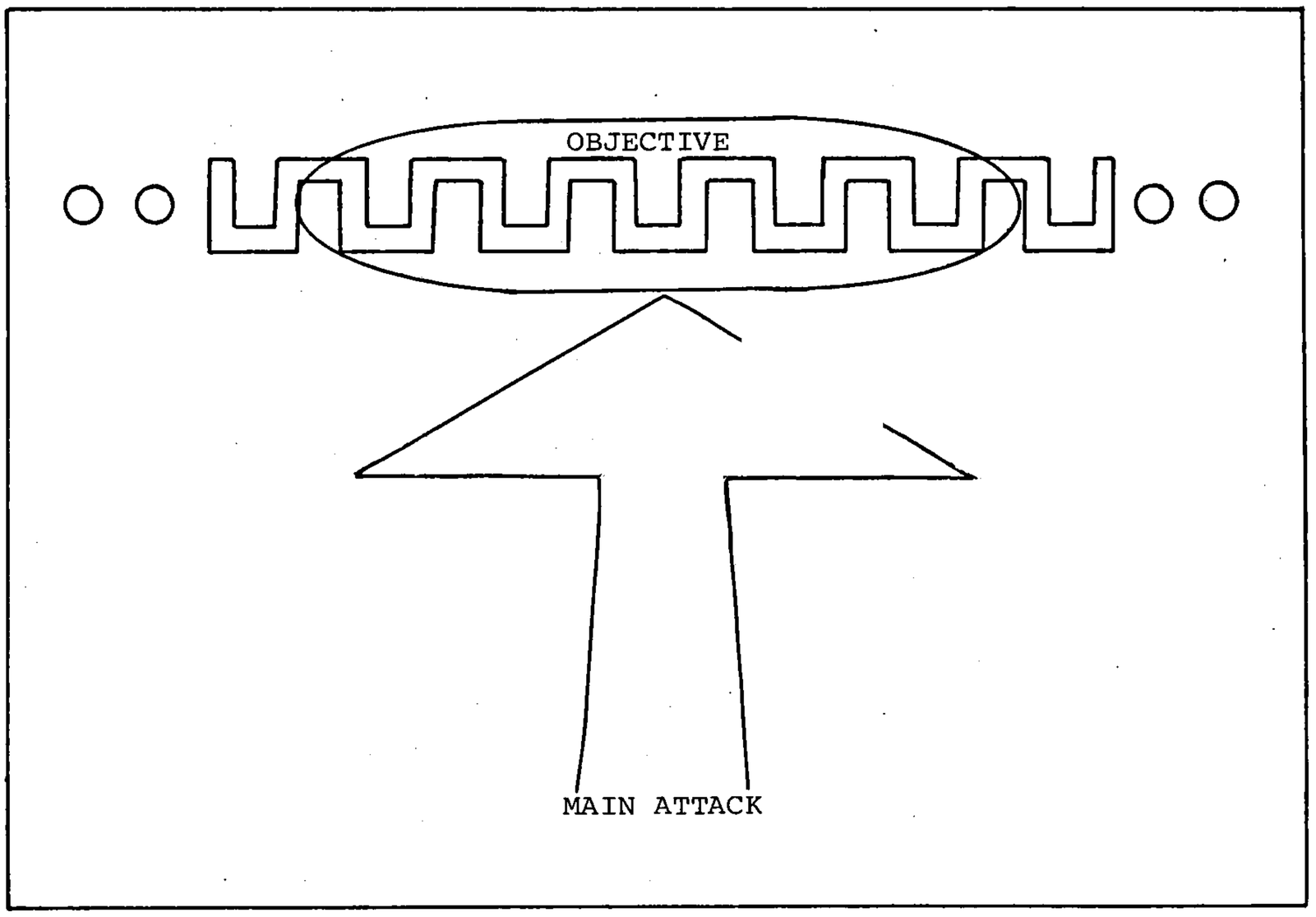

Figure 30.--Frontal Attack.

forces will give depth to the main attack. The leading force ruptures the enemy defensive positions on a narrow front in a powerful and violent attack. It then widens the gap to permit the employment of follow-on forces, or it maintains the momentum of the main attack by driving on to overrun or seize assigned objectives.

(3) Follow-on forces in the main attack may be used to widen the gap after the leading force has ruptured the enemy defensive positions or they may pass through the leading force and maintain the momentum of the attack by overrunning or seizing assigned objectives in the enemy rear. Follow-on forces may also be employed to attack enemy forces isolated by the momentum of leading forces.

(4) One or more supporting attacks are launched simultaneously with the main attack. These attacks are launched on a wide front to deceive the enemy as to the location of the main attack and to hold him in place. By holding the enemy in place, he is prevented from disengaging to withdraw to escape or to react to the main attack.

(5) The reserve may be used to widen the gap if necessary, but it would most likely be used to reinforce success such as the exploitation.

(6) The three stages of the penetration may be immediately followed by the exploitation. The penetration and the exploitation would then overlap and blend into a continuous operation. The leading force from the main attack may be committed to the exploitation, leaving bypassed objectives to be seized by follow-on forces. Follow-on forces or the reserve may pass through the leading force to move into the exploitation.

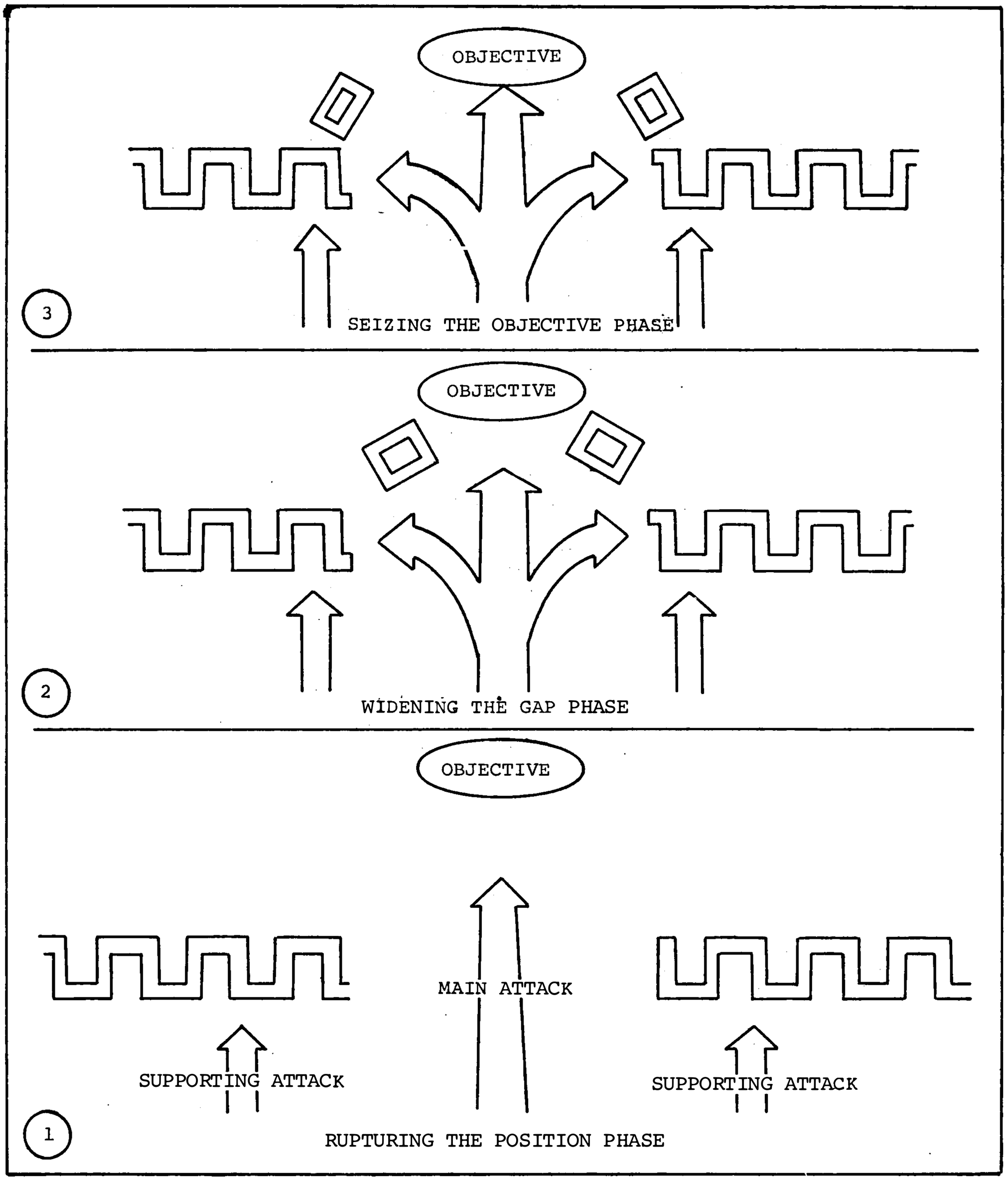

Figure 31.--Three Phases of the Penetration.

(7) Strong fire support is an important element in the preponderance of combat power used in the main attack. It contributes to the power and violence of the main attack and is effective in reducing casualties. Preparation fires cover the movement of the main and supporting attacks and then concentrate to demoralize and weaken the enemy at the point where the main attack ruptures the enemy defensive positions. When the rupture is effected, fire support shifts to support the attacks to widen the gap and the attacks on assigned objectives. Fire support is also used to limit the enemy's ability to react, neutralize his reserve, and engage targets of opportunity.

(8) Objectives are selected in the enemy rear to break up the continuity of his forces and to make his forward defensive positions untenable. Objectives are selected at least to the depth of the enemy reserve and include his fire support means, command and control installations, and reserve, as well as key terrain.

(9) To facilitate the momentum of the main attack, lateral movement should not be unduly restricted by boundaries or obstacles. Intermediate objectives are normally assigned to the main attack only if they are essential to the accomplishment of the mission. Close liaison must be maintained with forces in contact to facilitate one force passing through another.

(10) Consideration is given to the penetration as a form of maneuver when the enemy is overextended or weak and when his flanks are unassailable. The terrain may be unfavorable to other forms of maneuver or the terrain may favor a penetration because of an abundance of avenues of approach. The availability of superior fire support may favor a penetration, or a penetration may be used when time does not permit another form of maneuver. The penetration is considered when overwhelming combat power is not available.

(11) Evaluation of the terrain is important to a successful penetration. An avenue of approach should be selected to facilitate the rupture of the enemy defensive position, the widening of the gap, and the seizure of objectives in the enemy rear. The avenue of approach should not be so restrictive to maneuver that it would result in a gap so narrow that the enemy could easily close it nor should it be so wide it would require too large a force to open it initially. The terrain should also lend itself to the mobility and control of the attacking force.

(12) Multiple penetrations may be launched simultaneously at division and regimental levels if sufficient combat power is available. In such cases, the main attacks may converge upon a single deep objective, or they may seize several objectives that destroy the continuity of the enemy defense. Enemy forces bypassed by the leading forces in the main attacks are engaged by follow-on forces. If it becomes impractical to sustain more than one penetration, the one having the greatest success is used to destroy the enemy in detail.

(13) With the employment of helicopters, a penetration may be accomplished by landing a helicopterborne force behind the enemy defensive positions and rupturing them from the rear. This maneuver involves elements of the vertical envelopment.

(14) If tanks are available, they will contribute to the power and violence of the main attack. Tanks and other means of ground mobility

will increase the momentum of the main attack and lend themselves to the exploitation.

(15) When nuclear fires are authorized and available, they may be used to rupture the enemy defensive positions. Because of the damage caused by nuclear fires, a penetration may be a more desirable form of maneuver than it is when nuclear fires are not employed. Their use would make multiple penetrations at division and regimental levels more feasible. Care must be taken in preparing the nuclear fire plan and the scheme of maneuver to ensure troop safety.

(16) Chemical fires may be used to facilitate a penetration. Smoke may be used to limit the enemy's observation, and toxic, nonpersistent chemical agents may facilitate the rupture of the enemy defensive positions. As with nuclear fires, care must be exercised to ensure troop safety.

d. Envelopment.--In the envelopment, the main attack passes around or over the main enemy defensive positions to seize objectives in the enemy's rear. The envelopment causes the enemy to fight in two or more directions, and its success depends on surprise, mobility, and the ability of supporting attacks and deception to hold the enemy in place. (See fig. 32.)

(1) In the ground envelopment, the main attack is directed against an assailable flank. An assailable flank is one that can be circumvented without fighting a major engagement.

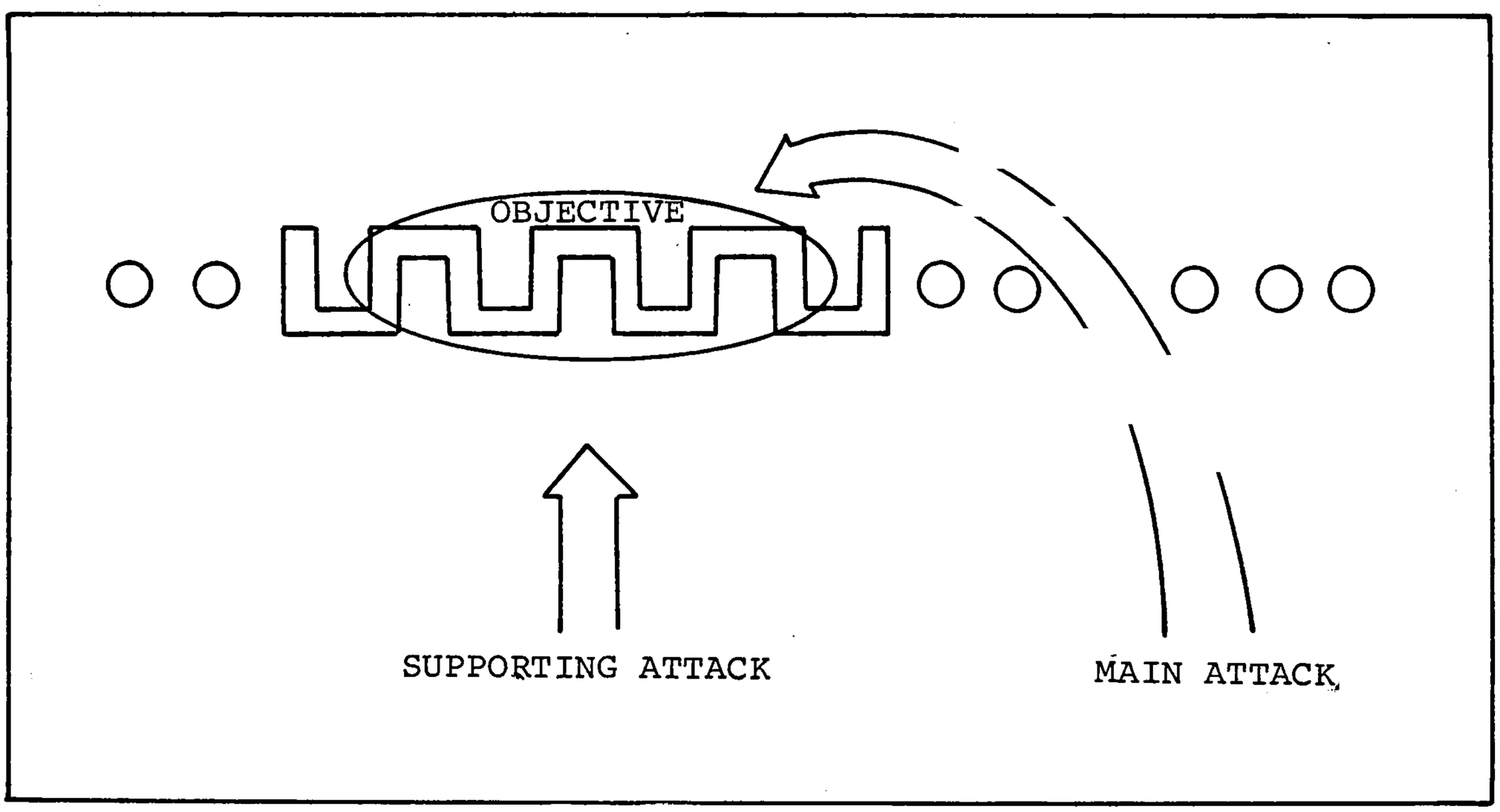

Figure 32.--Envelopment.

(2) When committed, the main attack moves rapidly to seize assigned objectives in the enemy rear. Rapid movement is essential to prevent the enemy from redeploying his forces against the main attack or occupying prepared positions. The main attack avoids strong enemy defensive positions and bypasses enemy forces that may delay it in reaching assigned objectives. Security forces are designated to protect the flanks of the main attack. If the enemy extends his front to cut off the main attack, the commander may decide to penetrate the enemy's extended front. Attempting to outflank the enemy's extended front may be dangerous due to separation of the main attack from the supporting attack.

(3) The primary purpose of the supporting attack is to render maximum assistance to the main attack. A vigorous supporting attack holds the enemy in position and prevents him from maneuvering against the main attack. In some situations, the supporting attack may deceive the enemy as to the existence or location of the main attack. It must have sufficient combat power to seize limited objectives and keep the enemy engaged.

(4) The reserve normally follows the main attack, but the commander is alert to exploit success of the main or supporting attacks.

(5) Preparation fires may precede the main attack and/or the supporting attack. If they are used for the main attack, preparation fires are short and intense. Fire support is used to help hold the enemy in place and prevent his maneuvering against the main attack. Fire support is also used to neutralize enemy forces bypassed by the main attack and to destroy the depth of the enemy defense.

(6) Objectives for the main attack are picked to subject the enemy to destruction in position from the flank or rear. They include command and control installations, fire support means, and escape routes. Limited objectives are assigned to the supporting attack to facilitate support of the main attack by holding the enemy in place.

(7) The main and supporting attacks may be launched simultaneously or they may be staggered to divert the enemy. If staggered, the supporting attack is launched first as a diversion to mask the noise and direction of the main attack. Minimum control measures are assigned to the main attack. A zone of action may simplify control and coordination with an adjacent supporting attack or an axis of advance may be used.

(8) Helicopters may be used to make a vertical envelopment over the main enemy defensive positions. They provide the means of delivering fresh troops on or near assigned objectives and increase the mobility and surprise of the attack.

(9) When nuclear fires are authorized and available, they may be used to create an assailable flank for the main attack. Care must be taken in preparing the nuclear fire plan and the scheme of maneuver to ensure troop safety.

(10) The double envelopment, turning movement, and encirclement are variations of the envelopment.

(a) A double envelopment is executed by two enveloping forces that pass around both flanks of the enemy. Normally, a supporting attack fixes the enemy in place. The attacking force must have superior

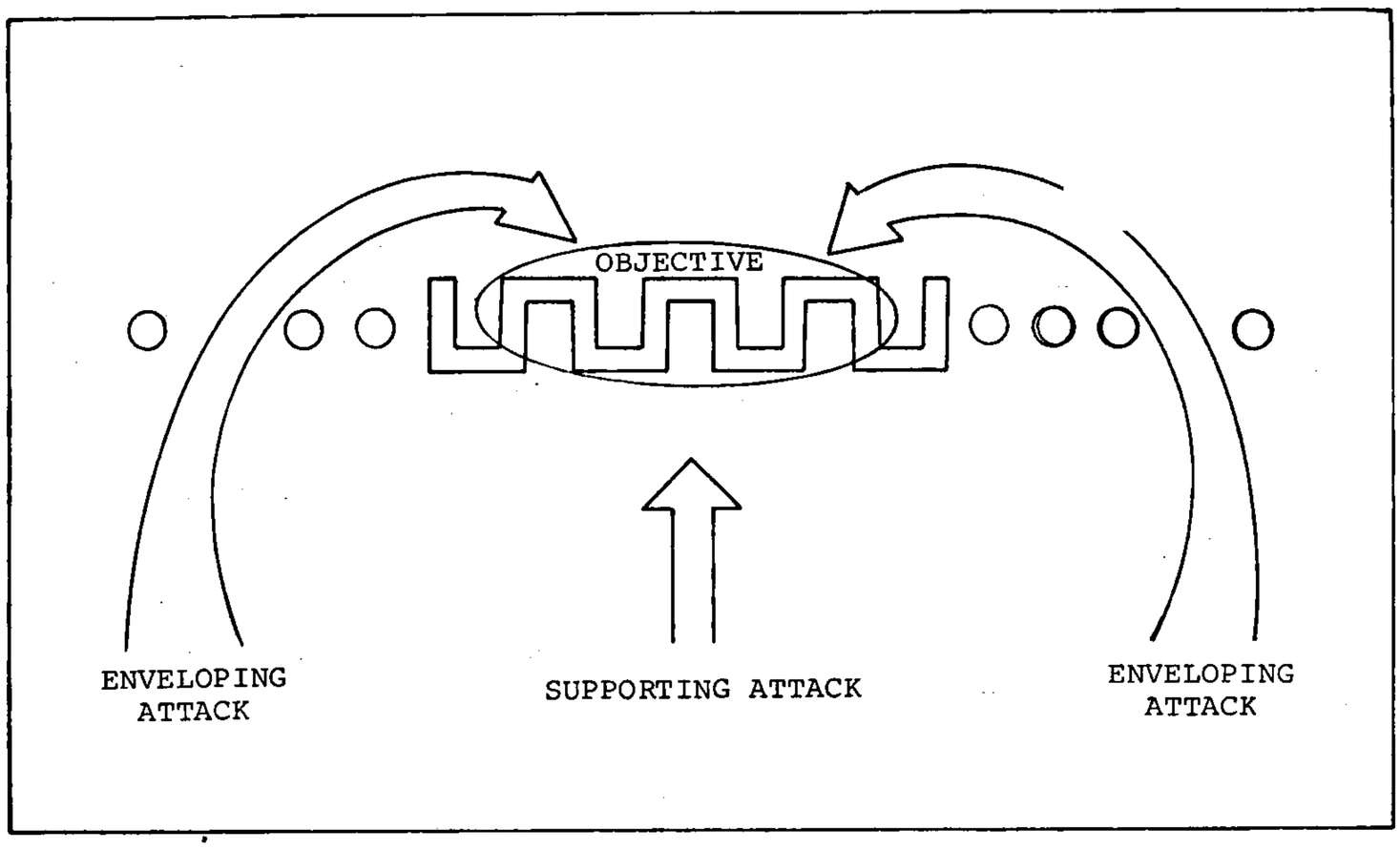

Figure 33.--Double Envelopment.

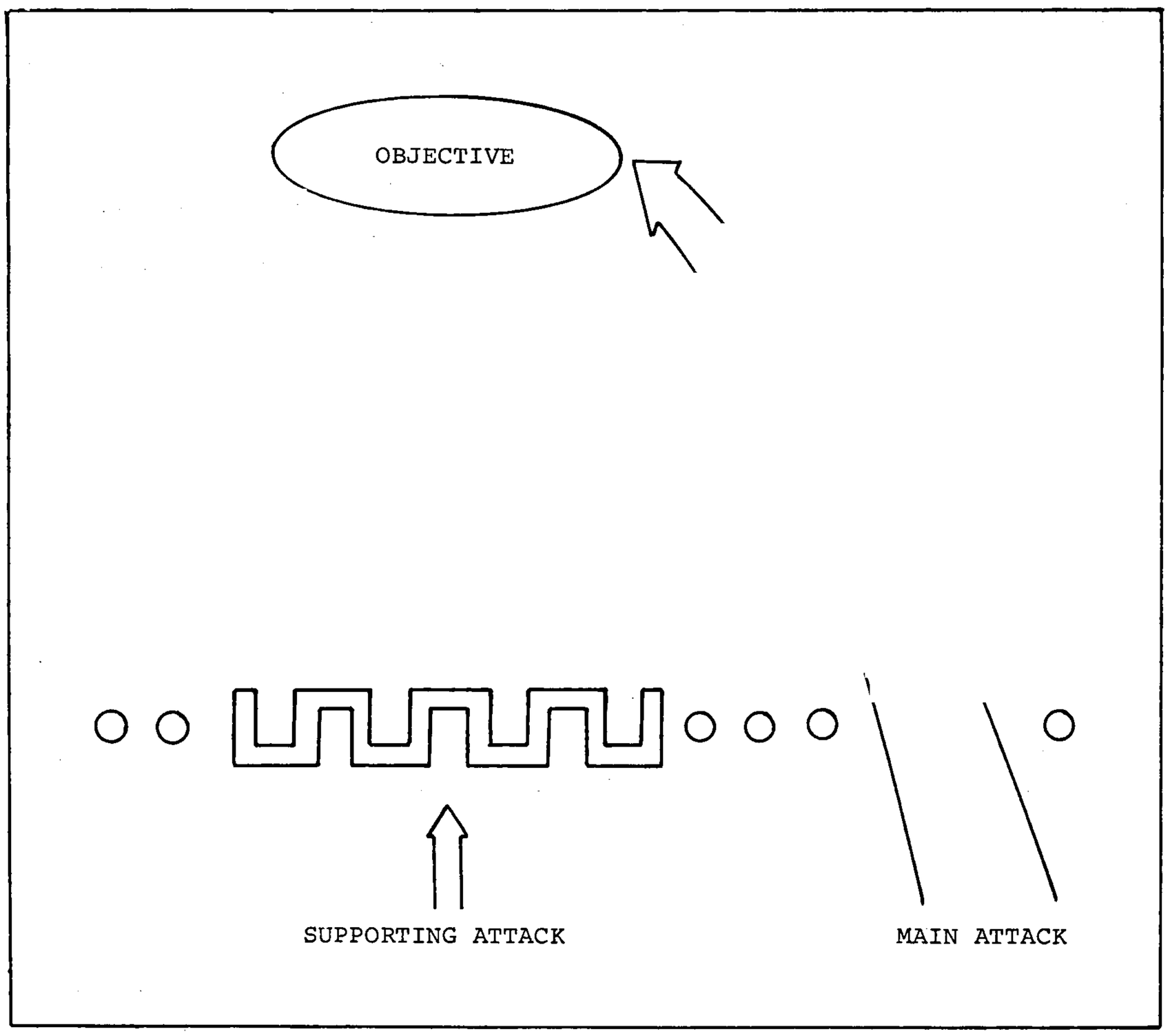

Figure 34.--Turning Movement.

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combat power and mobility. Precise coordination and timing are necessary for a double envelopment. (See fig. 33.)

(b) In the turning movement, the attacking force seeks to pass around the enemy, avoiding his main strength to secure an objective deep in the hostile rear. The turning movement differs from the envelopment in that it is not directed at the destruction of the enemy position. The purpose of the turning movement is to force the enemy to abandon his position or divert major forces to meet the threat. The enemy is then destroyed at a time and place of the attacker's choosing. A supporting attack may be required to fix the enemy. Since the force executing the turning movement is usually out of supporting distance of other elements of the force, it must be sufficiently mobile and possess adequate combat power to operate independently. Helicopters are particularly applicable for movement and initial support of this maneuver. Mobility superior to the enemy, secrecy, and deception enhance the opportunity of success. (See fig. 34.)

(c) The encirclement maneuver offers the greatest possibility for fixing the enemy in position and permits his systematic destruction or capture. The encirclement requires a numerical superiority, a great degree of mobility and surprise, the combination of which make it a difficult maneuver to execute. The use of helicopterborne forces will enhance the opportunity of success. When conducting an encirclement, it is preferable to occupy the entire line of encirclement simultaneously. If this is not possible, the best escape routes are covered first. (See fig. 35.)

e. Use of the Forms of Maneuver.--The determination of the form of maneuver to be used is based on an analysis of the mission of the force, characteristics of the area of operation, disposition of opposing forces, and the relative combat power of the opposing forces. Forms of maneuver are applied in the planning process and also when analyzing a past operation.

(1) Planning.--When the forms of maneuver are used as an aid to planning the concept of operations, they suggest to the commander and his staff the most efficient method by which maneuver can amplify the potential combat power of the unit. The tactical purposes sought by the commander determine the form of maneuver to be used.

(2) Observed Form of Maneuver.--An operation can be classified and recorded as the use of one of the forms of maneuver. This recorded observation may not bear any relation to the intent of the commander when he originally announced his scheme of maneuver. The commander who can foresee the course of battle in the greatest detail is usually the commander who has the greatest success. The course of battle offers the commander an opportunity to observe and relate his observations to maneuver. For example, a commander may plan a frontal attack, but due to enemy reaction, he finds that he can cut the enemy escape routes and destroy him in position by causing him to fight simultaneously in two directions. At this time, he would modify his plan and conduct an envelopment with the resources available to him.

3306. PLANNING THE ATTACK

a. General.--Upon receipt of an attack order, the battalion commander and staff follow the sequence of command and staff action outlined in EMFM 3-1, Command and Staff Action. As part of the normal estimate

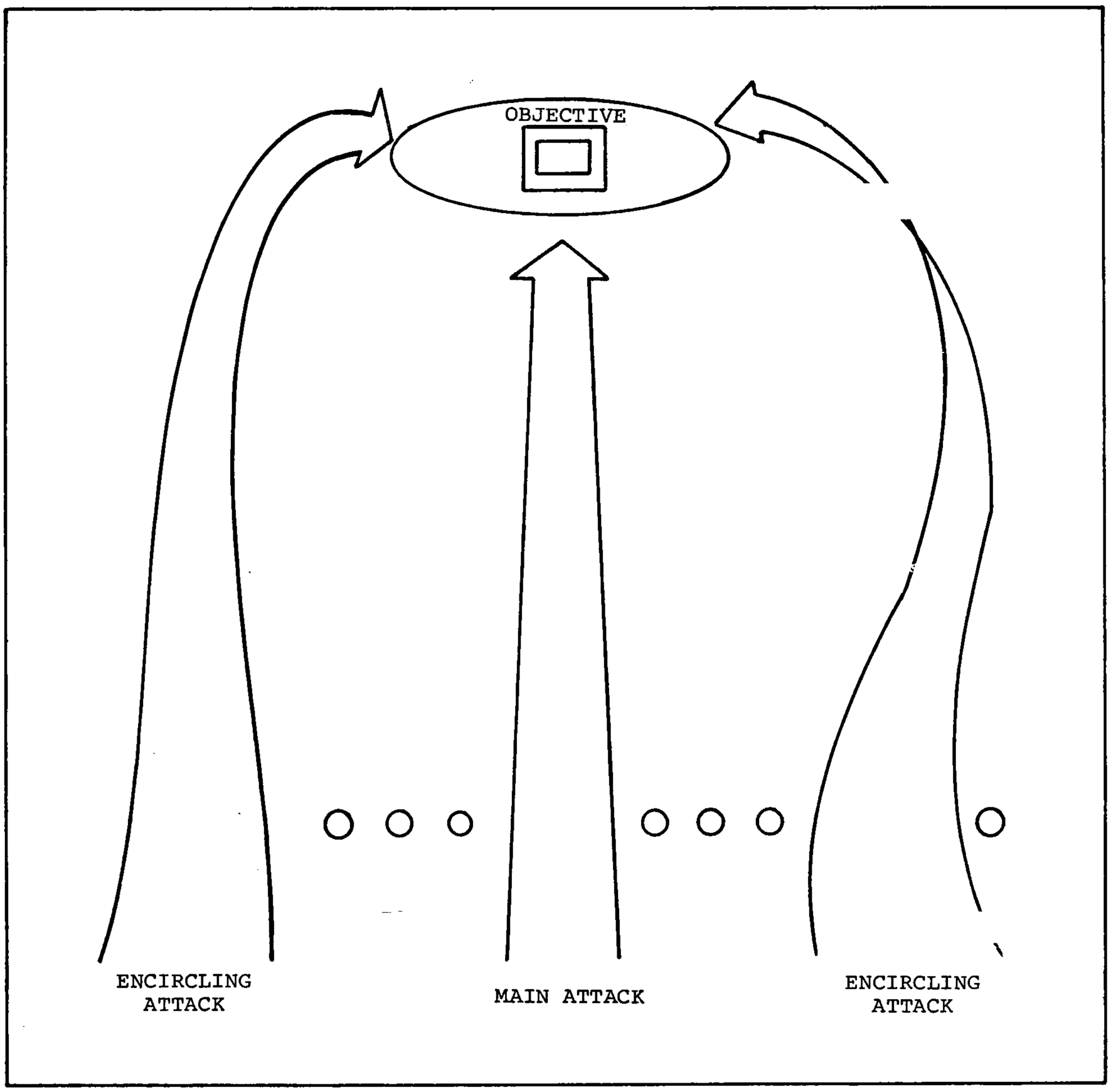

Figure 35.--Encirclement.

and planning process, the commander formulates a plan of attack. This plan consists of a scheme of maneuver and a plan of fire support. Both are developed concurrently and must be closely integrated. The plan of attack also covers the essential details of security, combat support and combat service support, and the establishment of the communication system necessary for control.

b. Scheme of Maneuver

(1) General.--The maneuver elements available to the battalion are the organic rifle companies, and when required, supporting tanks. The scheme of maneuver is the plan for the placement and movement of these organic and attached maneuver units to accomplish the mission.

(2) Development.--In developing the scheme of maneuver, the commander, assisted by his staff, accomplishes the following steps:

(a) Analyzes the Mission and All Available Information.--The first step in developing a scheme of maneuver is a thorough analysis of the battalion mission and consideration of all available information about weather, terrain, and friendly and enemy forces. The commander must study his order to ensure he understands all tasks assigned. Full consideration of all available information is given throughout the entire process.

(b) Selects Objectives That Assist in the Accomplishment of the Mission.--Frequently, the mission assigned to a battalion will be stated in terms of terrain objectives to be taken. If an objective(s) is expressly required by the assigned mission, it needs no further selection. Terrain objectives selected by higher headquarters and lying within the battalion's zone of action automatically become battalion objectives. However, the objective designation remains that of the selecting command. If the mission assigned a battalion does not include definite terrain features that must be taken, the battalion commander, by analyzing his mission, determines the terrain objectives that assist in accomplishing his mission.

1 The area designated as an objective must be seized and controlled; physical occupation of the entire area is not necessary. When the area is large, the battalion frequently seizes only the key terrain within it and controls the rest of the area by fire and other means.

2 In analyzing the assigned objective, the battalion commander will determine the terrain (within the objective) which, if seized, will provide decisive results. It is this terrain toward which the commander normally directs the main attack of the battalion, and it or part of it is usually designated as a battalion objective. As a result of the estimate, additional terrain may be selected as the objective(s) for a supporting attack(s) to facilitate the seizure and control of the key terrain by the main attack.

3 Objectives should:

a Contribute significantly to the accomplishment of the battalion mission and aid future operations.

b Be easily identified.

c Be capable of seizure by units within the time and space limits imposed.

4 For considerations in selecting intermediate objectives, see paragraph 3306b(2)(h)1.

(c) Selects Approaches to Key Terrain.--Terrain is the framework over which the scheme of maneuver is laid. Once objectives have been selected, the commander's primary concern is to consider the relationship of terrain features, one to the other, and to the decisive objectives. In selecting a route to the decisive terrain features, or to the assigned objective, the commander selects avenues of approach which provide adequate maneuver room, with commensurate cover and concealment, while allowing for ease of movement for the attacking elements.

1 Every possible avenue of approach is analyzed in the estimate, considering primarily its use by a main attack. Although the

commander prefers to select the most desirable approach (from a terrain point of view) for use by his main attack force, he may select a less than desirable approach in order to gain an advantage by surprise.

2 Terrain is the greatest single factor derogating mobility. Modern warfare, whether conventional or unconventional, requires a degree of mobility, heretofore desired but unattainable. An aggressive commander will seek to make use of terrain previously considered impassable in order to surprise the enemy. By taking advantage of the helicopter to lift combat elements over impassable obstacles, or by using amphibious/mechanized assets to the fullest, the commander may be able to reduce his own vulnerabilities, and multiply his relative combat power. The commander must recognize the capabilities and limitations of all his means of mobility, and employ them to the maximum benefit.

3 Helicopterborne/mechanized units generally have excellent mobility, and are able to project combat power over wider ranges of the battlefield. However, the sustained fighting ability of these units is dependent upon the flow of logistic support. If the terrain and enemy situation permit, the use of existing road networks will enhance the fighting power of highly mobile fighting forces by allowing them to sustain their combat operations. However, terrain should not be considered an absolute limiting factor; for the proper employment of amphibious means, the helicopter and fixed-wing transport aircraft can often overcome terrain deficiencies. It is axiomatic that the mobility of any force is limited to the mobility of its logistic support. To properly accomplish this mission, the commander must effectively utilize terrain; to gain maximum mobility, he must ensure continued and aggressive logistic support.

(d) Organizes for the Attack.--Based on the key terrain, the available approaches to the objective, and the analysis of courses of action in his estimate, the commander normally determines and designates a main and supporting attack(s). When two approaches offer equal opportunities, the commander may not plan main and supporting attacks but may plan means for weighting either attack according to the situation that develops.

1 Main Attack.--The main attack is directed toward the key terrain or that area which best facilitates the accomplishment of the battalion mission. First priority in allocation of combat power is given to the main attack. The main attack force may be weighted by placement of attached and supporting units, by the allocation of fires, and by positioning the reserve to facilitate its employment in the area of the main attack.

2 Supporting Attack.--When a supporting attack is used, it is planned to assist the main attack. The commander allocates the minimum necessary combat power to the supporting attack. This may deceive the enemy as to the location of the main attack, seize terrain which facilitates the maneuver of the main attack, contain the enemy in an area, or induce the enemy to dissipate his combat power outside the decisive area. If the supporting attack becomes more successful than the main attack, it may become the main attack. Because of terrain conditions and enemy defenses, a commander may plan to have a unit make the main attack initially until a certain condition is created or a certain area is reached, then convert a supporting attack to the main attack.

3 Reserve.--Concurrent with a determination of the size and use of the main and supporting attacks, the commander considers

the size and use of the reserve. The reserve consists of all uncommitted maneuver elements and is constituted to provide flexibility, security, and a means to influence the action. On occasion, the reserve may include nuclear fires. The reserve is used primarily to facilitate accomplishment of the battalion mission, to deal with unforeseen contingencies, and to exploit success. In the offense, the reserve remains dispersed, and it is located to facilitate its rapid movement to points of probable employment. It is normally positioned to favor the main attack, to provide security to the command, or to take advantage of available protection against hostile observation and fire. Its missions include:

a An attack to exploit an enemy weakness or friendly success.

b An attack from a new direction on an enemy position which, because of its strength, has halted or threatens to halt the advance of the attacking echelon.

c An operation against the hostile rear area to extend or exploit an envelopment or exploit a successful penetration.

d The assumption of the mission of an attacking element that has become disorganized, depleted, or for any reason has been rendered ineffective.

e The reduction of enemy resistance that may have been bypassed by the attacking echelon or that may subsequently develop to the rear of the attacking echelon.

f The protection of the battalion flanks and rear.

g The provision of the force necessary to capture a final objective.

h The assistance of adjacent units when such action favors the accomplishment of the battalion or regimental mission.

i Exceptionally, part of the reserve may be employed to maintain contact with adjacent units.

j The defeating of enemy counterattacks.

(e) Determines Forces Necessary to Seize Objectives.--In determining the main and supporting attacks and their objectives, the commander considers the amount of force which will be required to seize and control these objectives. He analyzes the friendly and enemy capabilities and the terrain, and tentatively establishes whether one or more companies are required for seizure of the battalion's final objective. He evaluates his total combat capability, to include fire support and maneuver elements. Concurrently, he considers the possible need for attaching fire support or maneuver elements to units which will seize objectives. These are steps in establishing the organization for combat.

(f) Determines Organization for Combat.--Battalions are tailored to give them the combat capability necessary to accomplish the mission assigned. This may include attachment of one or more combat and combat support units. The battalion commander, as a result of his estimate

and the recommendations of his staff, requests necessary additional support and forces, designates command relationships, and establishes a task organization necessary to accomplish the mission(s).

(g) Determines the Formation for the Attack.--The formation to be employed by the battalion is selected during the development of the scheme of maneuver. The battalion uses two basic formations: the column or line, or some variation thereof. The column formation for the battalion has one company in the attack; the line formation has two or more companies in the attacking echelon. The characteristics, advantages, and considerations appropriate to each of these are discussed below:

1 Column Formation.--A column formation maximizes flank security and flexibility (because of strong reserves) and facilitates control. The flexibility of the column formation for the battalion, however, is reduced considerably because of the time required for reserve companies to move against enemy encountered to the front. The following favor a column formation:

a Deep objectives.

b Vague enemy information.

c Strong flank security requirement.

d Restrictive terrain.

e A need to concentrate suppporting fires in one area.

f Initial enemy resistance can be eliminated by one company, or enemy resistance is light or disorganized.

g A high degree of mobility.

h Nuclear and/or chemical fire support allows use of a one-company attack.

2 Line Formation.--A line formation maximizes combat power to the front and flexiblity in commitment of reserve units. The following favor a line formation:

a Shallow objectives strongly held by the enemy.

b Flanks are secure.

c Multiple approaches.

d Fire support adequate to support all attacking companies.

e A mission of clearing a zone.

f Need to close rapidly with the enemy with the bulk of the battalion.

3 Variations of the Line and Column Formations.--The two basic formations may be varied when the situation does not allow use of a pure line or column formation. These variations include the echelon right or left, the wedge, and the inverted wedge.

4 Two Companies in the Attack.--If supporting fires are limited, it may be preferable to use two companies in the assault to increase the flexibility of the battalion by using a strong assaulting force, but still retaining a sizable reserve.

5 Three Companies in the Attack.--When adequate fire support is available and the battalion zone of action is wide, the situation may favor the use of three companies to clear the initial objective area rapidly, leaving one company as a reserve. This formation facilitates clearance of the zone of action and is frequently employed in a limited objective attack. It permits the bulk of the battalion to close with the enemy in the shortest possible time.

6 Four Companies in the Attack.--Using four companies in the attack is considered exceptional. It may be necessary on an extremely wide front or when enemy strength on a narrow front makes it necessary. It deprives the battalion commander of all flexibility. When four companies are committed, the battalion commander plans immediately to reconstitute a reserve as early as practicable.

7 Other Formations.--The battalion commander may adopt other formations which facilitate the accomplishment of his mission and are best suited for the particular situation with which he is faced. Most battalion missions require more than one company in the assault. The distance by which companies are separated is influenced by the battalion mission, the means of mobility available, the terrain, the enemy situation, available fire support, and the ability of the battalion commander to maintain control of the attack. Effective communications influence distance that can be permitted between companies.

(h) Determines Control and Coordination Measures.--The battalion commander employs the minimum control measures required to ensure that the operation progresses according to his plan. (See fig. 36.) Control measures which the commander may use are discussed below:

1 Intermediate Objectives.--The battalion commander may designate intermediate objectives. Only the minimum number necessary are designated since their seizure may slow the attack, restrict maneuver, and cause excessive massing. The conditions which favor the assignment of intermediate objectives are rarely consistent with the conditions that favor employment of a turning force, enveloping force, or mounted attack; therefore, intermediate objectives are not normally appropriate to such operations. A terrain feature may be designated an intermediate objective under the following conditions:

a Its occupation by the enemy will interfere with the progress of the attack.

b It is anticipated that prolonged and difficult combat on or about it will be necessary before the battalion can proceed to its final objective.

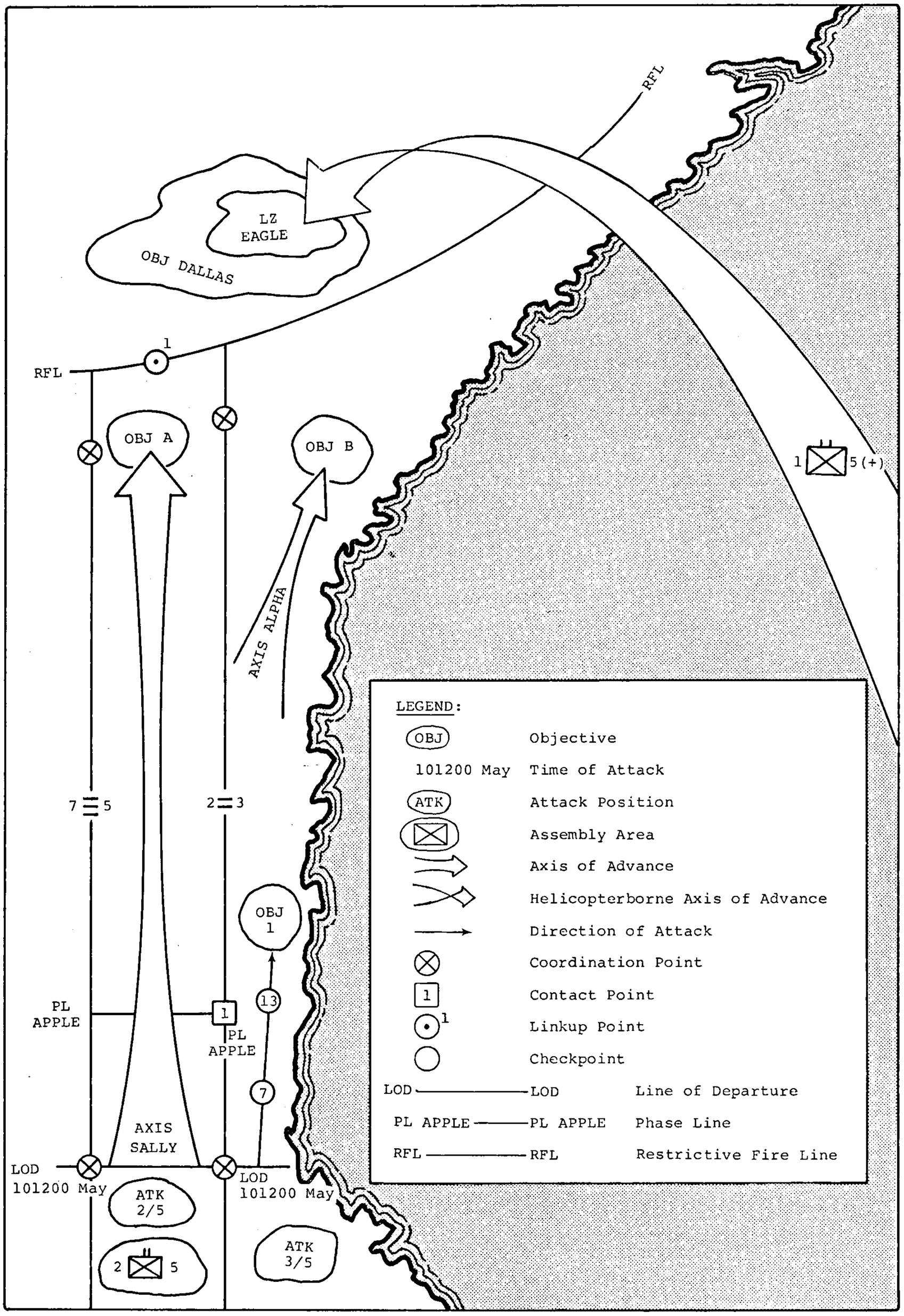

Figure 36.--Tactical Control Measures That May Be Employed By the Infantry Battalion in the Attack.

c Seizing it would facilitate control of subordinate units where observation is limited or where, for any other reason, difficulty in control can be anticipated or time phasing of the attack on the final objective is required and desired.

d It is needed for positioning subordinate units and weapons to ensure close coordination of an attack by more than one company against a strong enemy position.

2 Boundaries.--Boundaries are used to delineate zones of responsibility of units in the attack and to assist in controlling the fires and maneuver of these units. Boundaries are normally drawn along terrain features easily recognized on the ground, and are situated so that key terrain features and avenues of approach are inclusive to one unit. A boundary should extend forward beyond an objective at least to the depth necessary for coordination of fires and positioning of security elements in the seizure and consolidation of the objective. At the line of contact, boundaries are normally extended rearward to the extent necessary to ensure that sufficient space is provided for the force concerned, including its command and administrative installations; the rearward projection of the boundaries defines the rear limit of the unit's area of responsibility.

a Units may move and fire temporarily across boundaries only after coordination with the adjacent commander and after notification of the next higher command.

b Boundaries are used when assignment of zones of action is required, to facilitate coordination of forces of two adjacent units, or to control converging forces. In certain operations, boundaries may be used only at the line of departure (LOD) and in the objective area.

3 Zone of Action

a A zone of action is an area of operation. Normally, it is the terrain between two boundaries with the forward and rearward limits of the boundaries specifying the limits of the zone. Boundaries are seldom used on an exposed flank. In such cases, the commander concerned considers that the width of his zone extends in the direction of the exposed flank as far as necessary to accomplish his mission and to provide for the security of his forces. Normally, this will not project beyond his area of influence.

b Zones of action are assigned when close coordination and cooperation between adjacent units are required, or when the missions of units require a clear delineation of areas of responsibility, such as when the area must be cleared of the enemy as the attack progresses. When clearance of the zone is intended, orders to the units concerned must clearly specify this requirement.

c When assigned a zone, the commander is responsible for all military operations conducted in it except those specifically assumed by higher headquarters. He is free to fire and maneuver his units within the zone. The commander is responsible for locating and destroying the enemy in his zone consistent with the accomplishment of his mission and to the extent necessary to provide for the security of his command. When the engagement of enemy located in his zone would detract from accomplishment of the mission, the commander reports this fact to the next higher

headquarters. Known enemy units, whose strength or location may threaten the success of his operation or that of the higher echelon, are not bypassed without authority of the higher command. When follow-up support units are provided, they may be requested to assist by performing appropriate tasks.

d There is no single rule which can be applied in establishing the size of the zone of action appropriate for an attacking battalion. Determination of the zone is usually made by higher headquarters based on consideration of the mission, the terrain available, the enemy, the maneuver space required, and the size and nature of the objective. Each of these factors is considered in its relationship to the others; they are rarely in consonance and may frequently be in conflict.

4 Axis of Advance

a An axis of advance indicates the general direction of movement of a unit. The axis may follow a well-defined terrain feature such as a road or ridgeline. A unit advancing on an axis is not required to clear the area along the axis, and may bypass enemy forces which do not threaten the accomplishment of its mission. The higher commander is informed of such bypassing. A unit can deviate from the axis; however, major deviation must be reported. Commanders must ensure that deviation from the assigned axis of advance does not interfere with the maneuver or fires of adjacent units.

b An axis of advance is used when conditions favor the use of a certain approach facilitating rapid seizure of a deep objective, in operations against light or discontinuous enemy resistance, and where the need for a mutually supported attack does not exist. The axis of advance will normally be used in mechanized operations. The assignment of an axis gives general guidance to a subordinate but allows him considerable latitude in accomplishing his mission.

c When a company is assigned an axis of advance, it adopts the formation best suited to the situation. When two axes are used by the battalion, they should be far enough apart to ensure freedom of maneuver on each, but close enough to permit the units on each axis of advance to maneuver in support of each other.

d A commander need not employ his unit in a single column on his assigned axis; he may retain the assigned axis of advance for a supporting attack, or he may designate two axes of advance following generally the assigned axis. Care must be exercised in assigning additional axes to minimize the possibility of interference with adjacent units.

e An axis of advance may be used within a zone of action to more closely control the general location of a subordinate unit within the assigned zone of action.

5 Direction of Attack.--A direction of attack is more restrictive than an axis of advance. It designates the specific direction or route which the center of mass of the unit will follow. Because of its restrictive nature, it is used only when the battalion commander must maintain close control over the maneuver of a subordinate element along a specific route to ensure the accomplishment of a closely coordinated scheme of maneuver. This has particular application to a counterattack.

6 Line of Departure

a The LOD is designated to coordinate the departure of attack elements. It should be easy to recognize on the ground and on the map. It should be generally perpendicular to the direction of attack and should have covered and concealed approaches and afford protection from enemy observation and direct fire weapons. It should be under control of friendly forces and, if nuclear weapons are used, should conform to the commander's guidance on troop safety. When the LOD cannot be fixed on terrain, as in a counterattack, the anticipated line of contact (LC) may be designated the LOD.

b The battalion commander may select an LOD different from that specified by regiment, providing his leading elements cross the regimental LOD at the time specified by regiment. When attacking units are widely separated, the battalion commander may designate separate LOD and times of attack.

7 Time of Attack

a The time when leading elements cross the LOD is the time of attack. It may be at a precise time, on a prescribed signal, on order, or following the execution of a specified tactical action. Considerations in selecting a time of attack include: requirements imposed by higher headquarters; time required for subordinate units to reconnoiter, prepare and cooordinate plans, issue orders, organize units, and move to the LOD; and the need for surprising the enemy and taking advantage of his weakness before he can correct it.

b The attack by subordinate elements may be echeloned in time to deceive the enemy and allow shifting of friendly supporting fires to successive attacks. Different times of attack may be used to allow for different rates of march for units in order to have all attacking forces arrive simultaneously at the objective. However, a simultaneous attack usually prevents the enemy from concentrating all of his fires on a single attacking element.

c When nuclear weapons are employed prior to an attack, their delivery is closely coordinated with the time of the attack. The time of attack should follow detonation of nuclear weapons as closely as possible to allow early exploitation of their effects; however, time may be required for tactical damage assessment and modification of the plan of attack.

8 Company Attack Positions

a Company attack positions are used to facilitate deployment and last-minute coordination prior to crossing the LOD. They should be located close to the LOD and in defilade. Company commanders normally select and designate their own attack positions. The battalion commander may designate the company attack positions when he must maintain extremely close control in operations such as night attacks and river crossings.

b Only assault units use attack positions. To preclude presenting a vulnerable target, units should be in attack positions for a minimum amount of time. Ideally, attacking companies should

move through attack positions without stopping. When they have cleared the attack position, they should be deployed so that they will cross the LOD in a suitable combat formation.

9 Assembly Areas.--An assembly area is an area in which a command assembles preparatory to further action. The regiment will normally prescribe an assembly area(s) for the battalion. Within this area(s), the battalion commander designates dispersed company assembly areas, positioned for all-around defense, where orders are issued, maintenance and supply are accomplished, and the organization for combat is completed. Assembly areas should provide concealment, dispersion, suitable routes forward, and security from ground or air attack. When possible, they should be beyond the effective range of the bulk of enemy artillery.

10 Phase Lines.--A phase line extends completely across the zone or likely area of action. It is located on an easily recognized terrain feature such as a ridgeline, stream, or road. The phase line is used to control the forward movement of units which report arrival at it; however, units are not required to halt unless so ordered. A phase line may be used to limit the advance of attacking elements. Phase lines are particularly useful in fast-moving mechanized operations.

11 Checkpoints.--Checkpoints are reference points used to facilitate control. Checkpoints may be selected throughout the zone of action or along an axis of advance or direction of attack. By reference to them, a subordinate commander may rapidly and accurately report his successive locations, and a higher commander may designate objectives, LOD, assembly areas, or other localities to subordinate commanders. For security, random numbering of checkpoints is essential. Checkpoints are particularly useful in fast-moving mechanized operations.

12 Contact Points.--Contact points are easily recognized points designated between units where the commander desires the units make physical contact. Contact points may also be used to delineate areas of responsibility in specific localities when boundaries are obviously unsuitable; e.g., between elements of a flank guard. Contact points may be used during the consolidation of an objective to designate where units will coordinate the organization of the position.

13 Tactical Area of Responsibility (TAOR)

a A TAOR is a defined area of land for which responsibility is specifically assigned to the commander of the area as a measure for control of assigned forces and coordination of support. This area of land is delineated with a boundary which would close on itself.

b A TAOR is a control measure which may be assigned to the battalion by the regiment, or by higher headquarters when the battalion is operating independently. A commander assigned a TAOR is responsible for the positive control and coordination of all activities, including fire and maneuver, within its periphery.

c TAOR's are employed when conditions of wide unit separation require a distinction between tactical localities which are to be seized and/or defended and the extensive intervening areas which need only be maintained under reconnaissance and surveillance or security. They may also be employed in conjunction with zones of action or sectors of defense.

d A TAOR assigned a battalion includes the terrain localities which must be seized and/or defended. The area assigned should be large enough to include terrain necessary for the maneuver and support of the force and for the reconnaissance and surveillance measures required for target acquisition and security. Assignment of a TAOR to a battalion commander is accompanied by explicit instructions as to the missions to be accomplished therein as well as instructions relative to coordination with forces which may be operating in the vicinity of the TAOR.

e All fire or maneuver conducted within the TAOR, or whose effects impinge upon it, is coordinated with the commander of the force assigned the TAOR.

14 Linkup Point

a A linkup point has primary application in the composite helicopterborne/surface-landed operation, but it may be used on other occasions as indicated by the situation.

b Linkup points are selected at which physical contact between the two forces will occur. These points are mutually agreed upon and should be readily recognizable to both forces. They are located where the routes of advance of the linkup force intersect the security elements of the stationary force. Alternate linkup points are established. The number of linkup points established depends upon the capability of the stationary force, the number of routes being used by the linkup force, nature of terrain, and enemy threats to the operation. Troops manning the points, as well as the units contacting them, must be familiar with procedures for mutual identification and plans for the rapid passage of the advancing units. Assistance by the stationary force includes removing obstacles established to hinder enemy movement, providing guides, and reserving assembly areas for the reorganization of linkup forces.

c Fire coordination measures are established by the headquarters directing the operation. Neither force will deliver fires across the lines established without prior clearance of the other. As linkup becomes imminent, the restrictive fire line (RFL) is moved as close to the stationary force as possible to allow maximum freedom of action to the linkup force. Both forces establish fire support coordination lines (FSCL's). The FSCL of the linkup force may be separate from the stationary force in the early stages. As linkup becomes imminent, a single ESCL becomes applicable to both forces. Airstrikes not controlled by an air control team in the area between the two forces must then be cleared by both the linkup force and the stationary force. Normally, the initial RFL will become effective at the time a common FSCL is established. Upon linkup, a responsibility for fire support coordination for the force as a whole must be clearly established; responsibility for such coordination is that of the senior headquarters in the area or of the force having primary interest in the operations following linkup.

(i) Determines Combat Service Support.--In evolving the plan of attack, the battalion commander considers the impact of combat service support on the operation. Although the details in planning will be accomplished by staff members, the commander ensures that adequate supplies are available and that supply, evacuation, and medical service support plans are complete.

(j) Analyzes Communications

1 To control the attack, the battalion commander will plan for and ensure adequate communications with higher, lower, adjacent, attached, and supporting units. A constant flow of information to and from these units enables him to make changes in the plan of attack and issue timely orders.

2 In a daylight attack, to include a mechanized-attack, radio is a principal means of communication. However, within the means and time available, wire is installed to facilitate communications. Wire may be installed prior to the attack for use during periods of radio silence in assembly areas and in the early stages of an attack.

3 Although radio may be the primary means of communication, for secrecy and surprise, its use may be restricted until a prescribed time. Radio emission control is not carried to the point of making it a handicap rather than a protection. When it is probable that the enemy knows the location or anticipates the movement of friendly units, or after contact is made, little can be gained by continuing emission control.

4 For additional information, see paragraph 1302 and FMFM 10-1, Communications.

(k) Plans Actions in the Objective Area.--The commander makes tentative plans for consolidation, reorganization, dispersion, and employment following seizure of the objective. Rapid dispersal is required. Dispersed positions must provide for defense of the objectives and facilitate resumption of the attack. Regimental guidance regarding actions in the objective area may be in the form of a defense order, a phase line which limits the advance, or a contingency mission.

(l) Considers Alternate Plans.--The battalion commander considers what action the enemy might take to counter his attack, and he plans alternate actions to accomplish the mission if the primary plan fails.

c. Fire Support Planning

(1) General.--Fire support planning and coordination for land combat is similar in most respects to that associated with amphibious operations but with differences associated with environment.

(2) Plan of Supporting Fires.--(See par. 2402.)

(3) Fire Support Planning Process.--(See par. 2402.)

(4) Sequence of Development of Fire Plans

(a) The impetus of fire planning is from front to rear, but the battalion need not wait for the plans of the rifle companies before commencing. Fire support planning is continuous and concurrent at the company and battalion level. Except in unusual areas, time is at a premium. The designation (by SOP or otherwise) of areas of primary fire planning responsibility will enable the companies and the battalion to make maximum use of available time.

1 The lateral limits of areas of primary fire planning responsibility are usually established by unit boundaries.

2 The depth of areas of primary fire planning responsibility may be established by boundaries (forward and rear), by objectives, by phase lines, or by other control measures. In order to avoid omission of important targets, areas should overlap in depth.

(b) The rifle company formulates its plan based upon the mission and scheme of maneuver of the company. Fires are planned on known and suspected enemy positions and for protection after the seizure of each successive objective. This plan, which is in the form of a list of targets, is sent to the infantry battalion where it is integrated and coordinated with the plans submitted by the other companies, and with the plan which the battalion has prepared for its area of primary fire planning responsibility. Upon approval by the battalion commander, the battalion plan, including those of the companies, is transmitted by the appropriate fire support representative to the fire support agency represented.

(c) The battalion fire plans are transmitted to the regiment where they are consolidated and coordinated with each other and with the plan which the regiment has prepared for its area of primary fire planning responsibility. Upon approval by the regimental commander, the regimental plan, including those submitted by battalions, is transmitted by the appropriate fire support representative to the fire support agency represented.

(d) By the process outlined above, it should be apparent that planning, consolidation, and coordination are being conducted concurrently at every echelon. As a general rule, in case of conflicting requirements between higher and lower echelons, the requirement of the lower echelon should take precedence.

3307. MOVEMENT TO CONTACT

a. General

(1) A movement to contact is an operation conducted to place the battalion in position to close with the enemy. It may take the form of an administrative march when contact with the enemy is remote, a tactical column when contact is improbable, or an approach march when contact is imminent. For example, a battalion may begin a movement to contact, employing an administrative march, from a location well to the rear. In this type movement, speed and administrative considerations govern. Units need not be grouped tactically and may move by various means and different routes. Upon entering the rear of the anticipated battle area, the battalion normally adopts a tactical column. Here, both tactical and administrative considerations govern. Troops are grouped tactically to facilitate prompt deployment and limited security measures (mainly passive) are employed. The tactical groupings and security measures adopted depend upon the probable future mission of the battalion, the method of movement, road and traffic conditions, and the degree of enemy threat. Finally, as direct contact with the enemy becomes imminent, the battalion adopts the approach march formation with forces fully or partially deployed, employing maximum security measures.

(2) The battalion may conduct a movement to contact as part of the regiment or in an independent operation. The commander determines the probability of enemy contact and directs the type movement to be conducted.

(3) A meeting engagement is a combat action which occurs when a moving force, incompletely deployed for combat, engages an enemy force, static or in motion, concerning which it has inadequate intelligence. It is not a planned action; however, it is anticipated, and the commander is prepared to take appropriate action. It most frequently involves small units, such as security forces in a movement to contact. It may also occur in conjunction with other types of offensive operations. The paramount immediate objective of the commander confronted with a meeting engagement is to seize and retain the initiative.

(4) Air defense must be considered during the march. When mission, time, terrain, and weapon allocation permit, air defense weapons should be positioned at critical points along the route of march in advance and also interspersed within the column itself. Locations such as bridges, defiles, and passes, where an air attack could halt the entire column should be considered critical points. To achieve the most effective defense, weapons should be located on or as close to the critical point as possible while maintaining balance between observation, unobstructed sectors of fire, and mutual support distances. When occupation of critical positions is impracticable by using air or ground vehicles, all weapons will be interspersed in the march column with emphasis on the lead and rear elements and application of mutual support requirements. Aerial guards must be appointed, and maximum use must be made of organic automatic and individual weapons.

b. Battalion as a Covering Force

(1) The covering force of a unit moving to contact is usually provided and controlled by the highest tactical echelon involved. Thus, when the battalion is moving as part of a regiment or higher echelon, the covering force is normally controlled by those elements. The mission assigned the covering force is to develop the enemy situation and prevent unnecessary delay of the main body. The battalion, appropriately reinforced with tank, artillery, and engineer units, may constitute the covering force for a regiment or division.

(2) When employed as a covering force, the battalion operates well forward of the advance guard under the direct control of the main body commander. It normally advances on a broad front to ensure complete coverage of the front and to eliminate the possibility of bypassing enemy forces. Sufficient strength is retained in reserve to influence local engagements.

(3) Covering-force actions are characterized by speed and aggressiveness and unhesitating attacks to destroy enemy resistance, to seize and hold key terrain (which dominates the area), or to contain large enemy units. Enemy situations are developed rapidly and information concerning bypassed or contained enemy is relayed to the main body. The covering force engages in any action necessary to accomplish its mission but avoids becoming so engaged as to allow itself to be overrun or bypassed.

258-888 O - 78 - 14

c. Organization for the Approach March

(1) General.--Except when designated as a covering force, organization of the battalion for the approach march is essentially the same whether the battalion is the advance guard of a larger force (see fig. 37) or is operating independently (see fig. 38). This organization

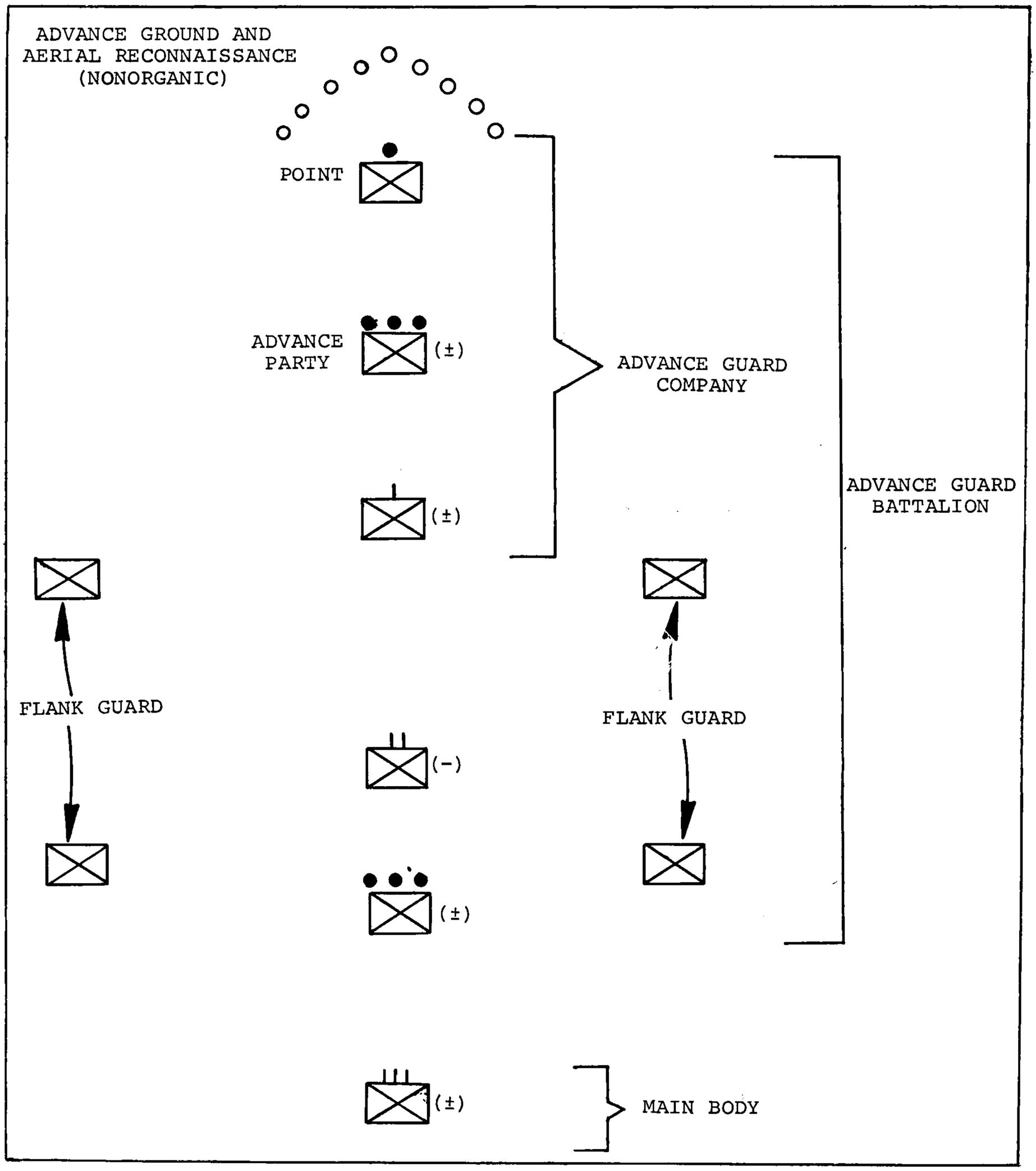

Figure 37.--Example of Battalion Moving as Advance Guard.

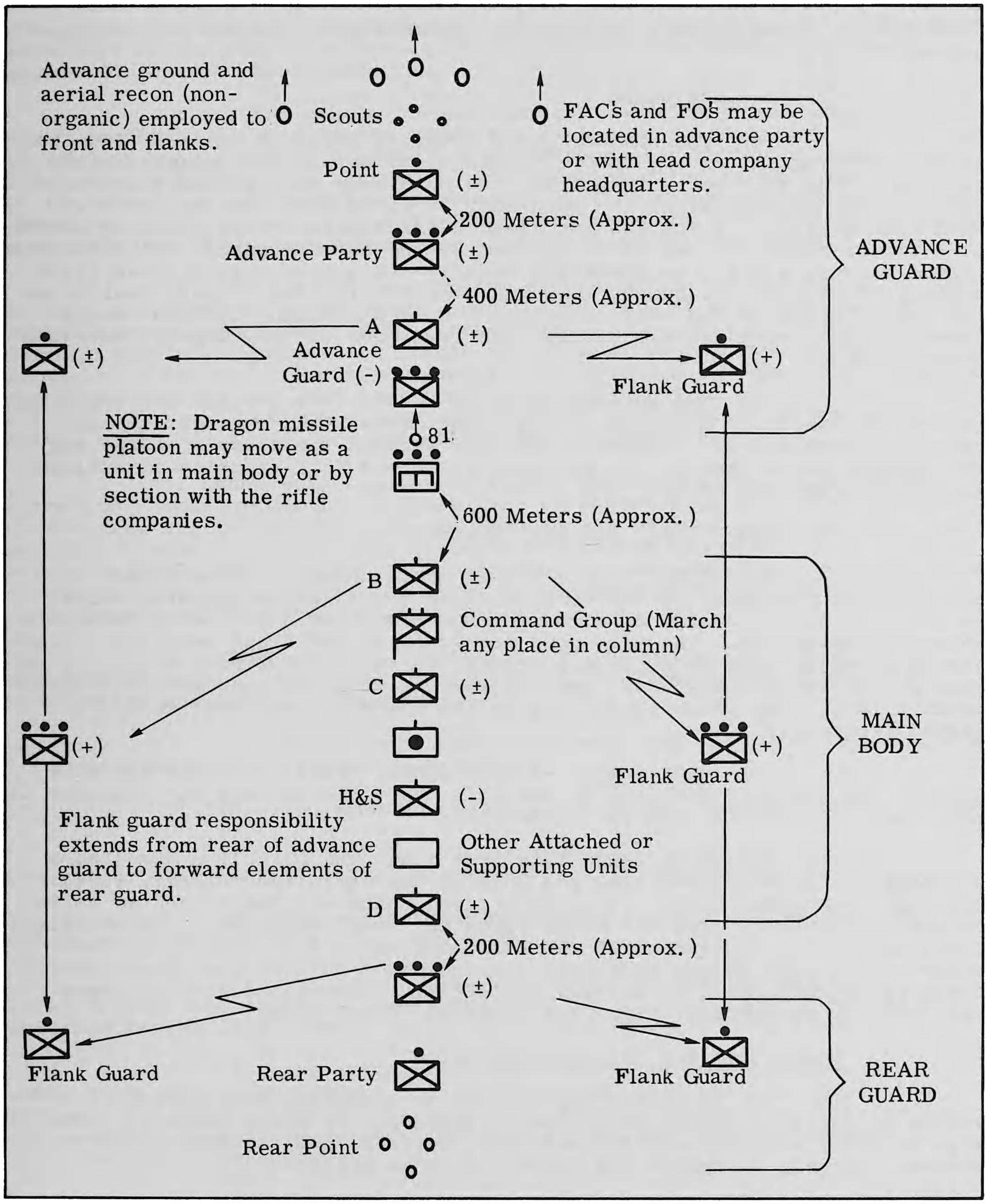

Figure 38.--Example of a Single Battalion in March Column.

provides for three primary components: advance guard, flank and rear guards, and main body.

(2) Advance Guard

(a) The advance guard operates ahead of the main body to provide development of the enemy situation, to ensure the uninterrupted advance of the main body, to protect the main body against surprise, and to cover the deployment of the main body if it is committed to action. When the battalion is the leading element (exclusive of the covering force) of a larger force, it may be designated as the advance guard. When the battalion marches alone, the commander usually designates a reinforced rifle company as the advance guard, in which case the leading company designates its lead platoon as the advance party; the lead platoon, in turn, designates its lead squad as the point. The remainder of the company forms the support proper.

(b) The advance guard is responsible for its own security. It provides security elements to its front to maintain contact with the covering force and to operate in the area between the covering force and the advance guard itself. It provides flank and rear security as outlined in subparagraph (3) below.

(3) Flank Guard and Rear Guard

(a) Flank Guard.--In an approach march where direct contact with the enemy is imminent, a flank guard, which operates closer to the main body and affords it more protection than a screening force, is normally designated. The main body provides its own flank security. Flank guards normally move by alternate bounds (terrain dictating), occupying successive key terrain features covering avenues of enemy approach into the march column. The flank guards engage the enemy as required and are relieved frequently.

(b) Rear Guard.--A rear guard, operating under battalion control, is normally provided by the main body. It follows and protects the main body from hostile forces in the rear.

(4) Main Body.--The main body, when the battalion executes a movement to contact, comprises the bulk of the battalion forces. It is organized for combat prior to movement, and units are positioned so as to be employed quickly once the enemy force has been contacted. The battalion commander avoids deployment of the main body until the strength of the enemy encountered forces a battalion coordinated attack; such commitment, however, is calculated to provide the attacker with tactical advantages with respect to terrain, time, and relative combat power.

d. Formations for the Approach March

(1) The battalion may conduct an approach march employing single or multiple column formations. Imminence of enemy contact, knowledge of enemy strength and dispositions, terrain, and required speed of movement largely determine the formation to be employed.

(2) When contact is imminent but exact enemy dispositions have not been ascertained and time is not critical, the battalion commander may desire, for greater security, to retain the bulk of his force in reserve

and use only a single column (see fig. 38) in the approach march. The disadvantage of the single column is that it permits the enemy to achieve maximum delay with minimum force.

(3) In the single-column formation, the reconnaissance element may be employed forward of the battalion in the approach march. These will be used to locate enemy dispositions and reconnoiter routes or zones over which the battalion will advance. If a covering force is employed forward of the battalion, reconnaissance elements will maintain contact with that force, if practicable. Once the approximate strength and location of enemy positions have been determined, the battalion deploys for combat.

(4) The lead company in the single column is designated as the advance guard and is normally assigned the mission of ensuring the uninterrupted advance of the main body. This company, in conjunction with the reconnaissance elements, facilitates the advance by removing obstacles, repairing roads and bridges if essential to continued movement, and covering the deployment of the main body when it is committed to action. The lead company, in turn, designates the lead platoon (reinforced) as the advance party. The lead squad (reinforced) is designated as the point.

(5) When sufficient trafficable routes are available and the battalion commander desires a wider band of security to the front, he may direct that two reinforced platoons compose the advance party and move on parallel routes. Then, if one route is blocked by the enemy or is otherwise unsuitable for movement, the remainder of the battalion, which is in a single column, may shift to the other route. Movement is made on roads or cross-country as required by the situation.

(6) Although the organization of the battalion column in an approach march will vary with the situation, there are several general rules which are normally followed:

(a) Tanks, when available, may lead the point unless there is a requirement for dismounted security.

(b) The command group is placed well forward in the column.

(c) Supporting engineers usually accompany the lead company to determine route conditions and assist in the passage of obstacles.

(d) The mortar platoon is usually well forward in the column to provide support for lead elements.

(e) The Dragon missile platoon is usually employed well forward with elements interspersed in the column. A section may be attached to the lead company and to flank and rear security elements.

(f) Any attachments which would be made later in the event of a meeting engagement should be accomplished prior to beginning the approach march. The column should be formed for optimum organization for combat. Change can be made, if required by the tactical situation, once contact has been made.

(g) A portion of the available artillery is located well forward to provide fire support, while the remainder may be centrally located in the column.

(h) When the approach march requires greater speed than is afforded in a single-column formation, or a wider deployment is desired, the battalion commander may organize the battalion in parallel columns. This formation presents multiple threats to the enemy with which he may be unable to cope. In such a case, the formation outlined above would be modified as follows:

1 The command group moves in the column where it can best influence the action. An alternate command group under the executive officer or S-3 may move with the other column.

2 Engineer elements and antitank support are provided for each column.

3 Artillery elements normally march in each column. When only one artillery battery is available, it will march in the column not containing the battalion mortar platoon.

(i) Parallel columns normally move within supporting distance of each other and contact is maintained between columns. When columns are widely separated, control of flank guards may be delegated to forces moving on each axis.

e. Conduct of the Approach March

(1) Every effort is made to sustain an uninterrupted movement. All-around security is essential, and the bulk of combat power is retained in an uncommitted status during movement to permit its rapid employment upon contact.

(2) Advance guard actions at all echelons are characterized by aggressive offensive action. Reconnaissance-by-fire techniques may be employed to develop the situation. Regardless of whether the battalion is the advance guard of a larger force or the battalion is marching alone, its actions will be characterized by frequent attack from march column. The primary difference between an attack from march column and coordinated and planned attack is that the requirement for immediate offensive action precludes detailed reconnaissance and deliberate planning.

(3) If the movement of the advance guard is delayed by enemy forces, it may be desirable to shorten the march column in order to reduce the time required to bring additional combat power forward for possible employment. In this case, subordinate units select, or have designated for them, areas astride the main axis where they may displace to facilitate movement in the direction of expected action.

(4) Once enemy contact is made, the advance guard destroys small delaying forces by fire and assault. Nuclear weapons may be employed to destroy forces to the front or those that threaten the flanks. If sufficient combat power is not available to eliminate the enemy threat, the advance guard may be required to determine extent of enemy resistance and contain the enemy force until elements of the main body are committed to reduce the resistance. The approach march ends when enemy action forces deployment of the main body from a march column(s).

3308. ATTACK

a. General.--The attack is an offensive combat action in which fire and maneuver are combined to create an impluse of force in a decisive direction to ensure the attainment of an objective. An attack aims either to direct a decisive blow at a vital area or to fix the enemy so that he cannot readily move. It is designed either to divide the enemy force and defeat it in detail or to concentrate the enemy force where it can be destroyed by fire.

b. Phases of the Attack.--Generally, the attack is planned and executed in three phases: the preparatory phase, the conduct phase, and the consolidation and reorganization phase.

(1) Preparatory Phase.--During this phase, preliminary operations are executed which tactically dispose the force to conduct the attack. These include:

(a) Movement to, and concentration of forces in, the forward area prior to the attack (to assembly areas, movement to attack positions started).

(b) Final preparation of attack echelon (reorganization, resupply, rest, reconnaıssance, plans and orders, training, orientation, coordination, maps, security, and rehearsals).

(c) Development of the enemy position and intensification of intelligence operations.

(d) Execution of deception plan, including feints and demonstrations.

(e) Fires before the attack may be completed and preparation fire initiated as scheduled (to include chemical and nuclear fires and assessment of damage created).

(f) Completion of preparations for relief in place or passage of lines as required.

(2) Conduct of the Attack.--The conduct of the attack consists of three stages: movement to the line of departure, movement forward of the line of departure to the final coordination line, and movement from the final coordination line through the objective.

(a) Movement to the Line of Departure.--The tactical move from the assembly area to the LOD is designed to facilitate deployment of the force. Maneuver elements are deployed into initial combat formations during movement or during the occupation of attack positions. Fire support elements not previously established are emplaced at this time. Movement of the LOD is planned so that units move continuously and cross the LOD at the designated time. During occupation of the attack position, fires may be withheld in order to achieve surprise. If a nuclear preparation precedes the attack, units may remain behind, or in, the attack position until a tactical damage assessment has been completed to determine the results of the nuclear strike. Following the initiation of preparatory fires, when used, the assault echelon crosses the LOD at the designated time. Times for units to cross the LOD should be determined so as to facilitate arrival of units at the objective area in the desired order.

(b) Movement Forward of the Line of Departure to the Final Coordination Line.--The attack commences when the lead elements leave their attack positions to cross the line of departure.

1 During the advance toward the objective, fire elements attempt to gain fire superiority while the maneuver force moves to the Final CL, where deployment may be completed in preparation for the assault.

2 Preparatory fires continue as the attacking elements advance toward the enemy positions. As targets appear, supporting fires are requested by mortar or artillery forward observers (FO's) and forward air controllers (FAC's) moving with assault elements. The entire attack is characterized by a series of rapid advances and assaults, closely supported by fire. If armor elements are participating in the attack, tank and infantry elements operate as combined-arms teams to complement the capabilities and offset the limitations of each force. During this phase of the attack, reconnaissance by fire may be used to develop the situation.

3 When enemy resistance is encountered, the situation is developed and attacking elements maneuver as necessary to destroy the enemy. Rifle companies remain dispersed until required to mass to overcome enemy resistance. When the requirement for concentration ceases, units again disperse.

4 Attacking companies move toward their objectives by use of fire and maneuver. They do not stop or delay the attack to preserve general alignment or to rigidly adhere to the conceived plan of attack. When an attacking company is exposed to a counterattack, the battalion commander must be prepared to shift supporting fires and/or the reserve to neutralize the counterattack.

5 Halts on intermediate objectives normally are avoided since this slows the attack and greatly increases vulnerability. Ideally, the entire force advances on the enemy without halting while fire elements neutralize the enemy's capability for interfering with the maneuver. The maneuver force must close on the objective in the shortest possible time with maximum combat power; the longer its exposure to enemy fire, the greater will be its loss. The combination of speed, multiple attacking elements, and all available supporting fires increases the closing shock of the maneuver force. When the maneuver elements employ fire and maneuver or fire and movement, commanders at all levels must take aggressive action to ensure that movements are executed rapidly and that the entire force continues to advance on the enemy. Enemy resistance of insufficient strength to jeopardize the accomplishment of the mission is bypassed or contained with minimum force. The location of bypassed elements is reported to the next higher commander. In the event the unit has been assigned a zone clearance mission, sufficient forces with adequate supporting fires are left to destroy the enemy force without slowing the momentum of the attack.

6 Throughout the attack, units closely follow supporting fires. Supporting weapons displace by echelon to provide continuous support.

7 As the attack progresses, the commander shifts the weight of the attack to take advantage of tactical success, to avoid known

or suspected enemy strength, or to take advantage of more favorable routes of approach as they are uncovered. The commander shifts the weight of the attack primarily by shifting supporting fires or employing his reserve. However, through aggressive aerial and ground reconnaissance, he may uncover ideal or adverse terrain conditions in sufficient time to turn them to his advantage or to lessen their impact on his operation.

(c) Movement From the Final Coordination Line Through the Objective

1 The purpose of the assault is to close with and capture or destroy the enemy. The assault begins when the maneuver force completes its deployment to the formation for the assault. At that time, supporting fires which inhibit movement of the assaulting force are shifted to the flanks and rear of the objective. As this is accomplished, the assault element increases the intensity of its fires in order to maintain fire superiority over the enemy.

2 The commander prepares for the assault by concentrating supporting fires to neutralize or weaken the enemy prior to launching the assault. Assault units follow closely their supporting fires, deploy, and cross the final coordination line at the time supporting fires are shifted, usually on order of company commanders. The fire of assaulting units continues throughout the assault.

3 The assault is a short, well-coordinated effort to overrun the objective. The action is characterized by aggressive employment of fire and maneuver of companies and platoons and fire and movement by individual riflemen to close with and kill or capture the enemy. Gaps in enemy defenses are exploited as they are detected and small strongpoints assaulted from the flanks and rear, if practicable. Massing of forces during the assault is restricted to the minimum necessary to seize the objective. The assault is characterized by rapid movement and heavy volume of fire throughout as attacking elements continue to saturate the objective with fire, destroying enemy positions and weapons. As the assault units arrive at the far edge of the objective, fire is directed on enemy dispositions beyond the objective area. As soon as the objective is seized, elements move to positions dominating avenues of enemy approach into the position and prepare to repel counterattacks or to continue the attack.

(3) Consolidation and Reorganization Phase.--The purpose of the consolidation and reorganization is to prepare the attacking force for future action. When possible, the seizure of the objective should be followed by immediate continuation of the attack or exploitation of success obtained. Control is difficult, and it is the time when an aggressive enemy delivers a carefully planned and coordinated counterattack.

(a) Consolidation.--Consolidation pertains to all measures taken to organize and strengthen a newly captured position as it may be used against possible enemy counterattacks. Initially, a hasty defensive posture is assumed to ward off possible counterattacks. Thereafter, the unit takes necessary action to occupy the objective, or following minimum essential organization, to continue the attack depending on its mission. Emphasis is placed on security, displacing and positioning of forces, fire planning, reconnaissance, and reorganization; but these actions should not unnecessarily slow the momentum of the attack if it is to be continued.

Reconnaissance elements maintain contact with the enemy and obtain information. Fires beyond the objective protect the reorganization and break-up counterattacks.

(b) Reorganization.--Reorganization includes all measures taken by a force to maintain its combat effectiveness in order to prepare for further attack or pursuit of the enemy. Reorganization is continuous but is given special emphasis upon seizure of the objective. It includes reporting of unit location and status to higher headquarters, redistribution of personnel, evacuation, resupply, revision of communication plans, and relocation of control facilities.

c. Flexibility

(1) During any phase of the attack, anything can happen. The successful commander is prepared to modify his plan to meet the situation as it develops. The plan of attack must remain flexible. Success in the attack may well hinge on a commander's willingness and ability to modify his original plan.

(2) Contingencies, such as enemy reaction to the attack, are continuously anticipated and considered. These events which may affect the basic plan of attack are considered concurrently with the development of that plan. These considerations are based on the basic plan of attack, but anticipates actions or reactions which may result from further development of the situation or as a result of the attack.

(3) To achieve the desired flexibility in his plan of attack, the commander must, at least mentally, have outlined alternate plans to cover the following situations:

(a) Continuation of the attack.

(b) Exploitation.

(c) Pursuit.

(d) Failure of the attack on intermediate or final objectives.

(e) Enemy counterattack.

(f) Redesignating the main and supporting attack.

(g) After commitment of the reserve, the establishment of a new reserve force.

d. Use of Reserve During the Attack

(1) The reserve should be employed to envelop a flank, to reinforce and exploit initial success of a penetrating force, or against any point of known or suspected weakness. Passing the reserve through units that have been stopped by enemy action is avoided whenever possible; rather, the reserve should be committed from a new direction to achieve surprise and avoid intermingling or confusion. The reserve is used to exploit success rather than to reinforce failure. (See fig. 39.)

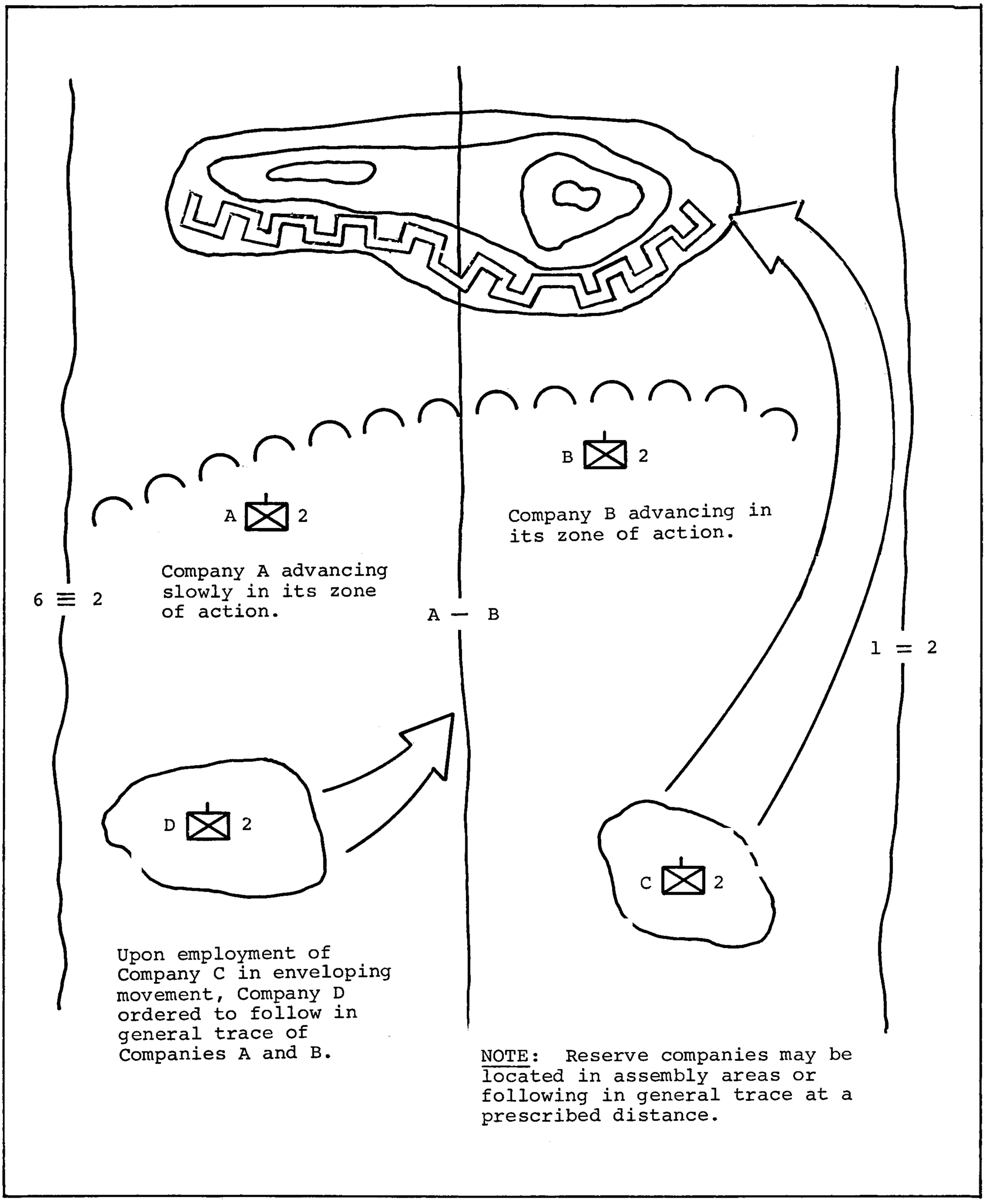

Figure 39.--Employment of Reserve.

(2) The reserve should be located in a position from which it can move rapidly to points of probable employment. As the attack progresses, it moves by bounds and is kept close enough to the attacking echelon to achieve decisive results if it must be committed.

(3) When, in the battalion commander's judgment, the situation warrants employment of the reserve, he commits it without hesitation, reconstituting a new reserve as soon as possible. At times, the commander may commit only a portion of the reserve to accomplish a specific task. When so doing, care must be taken to ensure that the portion of the reserve committed is adequate to perform the specific task. The battalion commander notifies the next higher commander when any portion of the reserve is committed.

(4) A reserve must be reconstituted as soon as possible. Personnel from headquarters and service company and attached units may be used. If this temporary reserve is inadequate, the battalion commander may place restrictions on committing the reserve of one or more of the rifle companies. One or more units are placed in reserve by the commander as soon as the situation permits.

e. Action When Enemy uses Nuclear Weapons

(1) If the enemy employs nuclear weapons against the attacking force and destroys a company or a major portion of it, the commander maintains the momentum of the attack with all means at his disposal. If the unit affected is an attacking company, a reserve company should be committed to take over its mission, while survivors of the affected company are attached to the committed reserve company and continue their mission to the extent possible until relieved. Upon relief, the company may be placed in reserve, of if it is no longer effective as a unit, its survivors may be attached to one of the units of the battalion. If more than one company is affected, the next higher commander may have to change the battalion mission, and regiment or division reserves may be employed to influence the situation.

(2) The enemy will exploit the effects of his nuclear weapons by counterattacking; therefore, consideration should be given to shifting forces toward any threatened area to provide maximum protection, while still continuing the attack.

f. Action Against Counterattacks

(1) If the enemy counterattacks with insufficient combat power to constitute a threat to the accomplishment of the mission, the battalion reports intention to bypass it and assigns the mission of blocking or destroying it to the reserve or to one of the elements in the attack. At times, forces from the reserve may be employed to destroy or contain the bypassed enemy force.

(2) If the counterattacking force is large enough to present a threat to accomplishment of the mission, the commander destroys or neutralizes it with nuclear and/or nonnuclear fires so that he may continue the attack toward the objective. If fires are not available or do not eliminate the enemy threat, the commander shifts his attack to destroy the counterattacking force before continuing toward the objective.

(3) When the counterattacking force is too strong for the attacking force to eliminate, the commander takes action to contain the counterattacking force, reports the situation to higher authority, and requests assistance.

3309. EXPLOITATION

a. General

(1) The exploitation is an offensive operation designed to destroy the enemy's ability to reconstitute an organized defense or to engage in an orderly retrograde movement. The battalion may exploit its own success, may be the exploiting force of a higher echelon (when mechanized), or may follow and support another exploiting force.

(2) Since the exploitation is normally characterized by rapid movement, motorized or mechanized infantry units with tanks are best suited for this type of operation. Infantry units on foot may also exploit within their capabilities, with attached tanks used to provide transportation for them when practicable.

(3) Helicopterborne forces may be profitably used during the exploitation to seize key terrain blocking enemy withdrawal routes.

b. Methods

(1) There are two general methods by which a commander can exploit the success of his unit. Whichever method the commander chooses is implemented rapidly.

(a) Exploit With Committed Forces.--In this method, the commander employs the committed forces to exploit their own success. This method is generally indicated when the attacking echelon has accomplished its mission and is the force most readily available to continue the advance against the enemy. It may become necessary to reorganize and resupply these forces on the move.

(b) Exploit With Reserves.--In this method, the commander commits his reserve by passing it around or through the forces which have achieved the success. This method is generally indicated when the attacking echelon still has essential tasks to accomplish, is still actively engaged with enemy forces, or will require reorganization before it can continue the advance. Use of this method requires that the reserve be properly organized for combat and be in a position to be readily committed.

c. Planning Exploitation.--In the offense, all units should be prepared to participate in the exploitation when the opportunity presents itself. Planning for an exploitation is conducted before and during an attack. Considerations for planning an exploitation are essentially the same as planning for the attack; however, particular emphasis is placed on the organization for combat, combat service support, mobility, and security required for such an operation. This emphasis is necessary since the exploitation, particularly with a mechanized force, normally entails seizure of deep objectives, high class III consumption rates, and operation behind bypassed enemy forces.

d. Conduct of Exploitation

(1) The exploitation is characterized by boldness, maximum and prompt use of available firepower, reconnaissance by fire, rapid and unhesitating employment of uncommitted units, and decentralized execution of orders. Mission-type orders are used and minimum control measures (axes of advance, phase lines, and checkpoints) are employed to facilitate a rapid advance. Forces in the exploitation normally advance in deployed formations on several axes beginning as soon as possible after the penetration, depending upon the mobility of the force, road net, and other aspects of the terrain. A minimum reserve is normally retained.

(2) In the exploitation, the enemy resistance will consist of delaying actions by small units, defense of scattered strongpoints, and use of obstacles. The exploiting commander must ensure that such minor resistance does not deter him from his primary mission. Enemy forces which cannot interfere with the accomplishment of the unit mission are bypassed and reported for following units to capture or destroy. Attack is frequently made from march column as in the movement to contact.

(3) Once the initiative has been seized by the exploitation force, it should be retained, and continuous attack both day and night characterizes this phase of the operation. The reserve is used to pass through depleted attacking elements to continue the momentum of the attack.

e. Combat Service Support.--Combat service support elements are usually located near the rear of the formation where provision can be made for their security during the exploitation. Stress will be required on the provision of fuel, evacuation of casualties, resupply of ammunition, and emergency repair and evacuation of vehicles. Aerial resupply may also be required during the exploitation.

f. Pursuit.--The pursuit differs from the exploitation in that its primary purpose is the destruction of the enemy force which is in the process of disengaging, rather than the seizure of a terrain objective. In pursuit, the battalion may operate as all or part of the direct-pressure force or the enveloping force. At battalion level, the conduct of the pursuit is essentially the same as the exploitation.

3310. RECONNAISSANCE IN FORCE

a. General.--The reconnaissance in force is a limited-objective operation to determine and test the enemy's disposition and strength. Although its primary aim is reconnaissance, it may discover weakness in the enemy dispositions which, if promptly exploited, may achieve tactical success. The battalion may conduct the reconnaissance in force for the regiment or, the battalion as a part of the reserve regiment, may be committed to exploit the enemy weaknesses discovered by other reconnaissance elements. Elements of the battalion may also conduct a reconnaissance in force on a limited scale.

b. Planning

(1) The reconnaissance in force is employed to develop enemy information more rapidly than by other methods; however, in terms of combat power required, it is an expensive method of gaining intelligence.

In arriving at a decision to reconnoiter in force, the commander considers the following:

(a) The extent of his present knowledge of the enemy situation and the urgency and importance of the additional information sought.

(b) The efficiency and speed of other collection agencies.

(c) The extent to which his plan of action may be divulged by the reconnaissance in force.

(d) The risk that the reconnoitering force may be defeated and the possibility that the reconnaissance may lead to a general engagement under unfavorable conditions.

(2) The reconnaissance in force may be conducted as a limited objective-type attack, or it may be conducted as a phased advance under mission-type orders employing a series of probing attacks.

(3) The reconnoitering force must be of sufficient size to cause the enemy to react to the attack, thereby disclosing his locations, dispositions, strength, planned fires, and planned use of reserves.

c. Conduct.--The reconnaissance in force is conducted in a manner similar to other attacks. Restrictions are normally placed on the commander of the force to avoid decisive battle; however, the commander ordering the reconnaissance must be prepared to exploit success gained by the reconnaissance force. The commander ordering the reconnaissance in force is also prepared to assist in the extrication of the force if it becomes heavily engaged. Use of planned fires will assist the reconnaissance force in breaking contact. On completion of the reconnaissance mission, the force may remain in contact with the enemy or it may be ordered to withdraw.

3311. EMPLOYMENT OF HELICOPTERS IN THE ATTACK

a. General

(1) In amphibious or subsequent operations ashore, helicopters may be employed to transport a BLT/battalion assigned to seize critical objectives and/or maintain control over relatively large TAOR's. The distance between battalions may be great. Under such operating conditions, the battalion relies primarily on helicopters to provide the mobility required in accomplishing tasks within its TAOR or zone of action. Helicopters may be used to lift security detachments, to maintain surveillance over wide areas, and to lift subordinate units of the battalion.

(2) As the attack progresses, the battalion may participate in helicopterborne attacks as part of a regiment or it may conduct helicopterborne operations of independent nature.

(3) The battalion may be lifted by helicopter to execute envelopments, or as the exploitation force of a larger unit that has effected penetration of enemy defenses. (See fig. 40.)

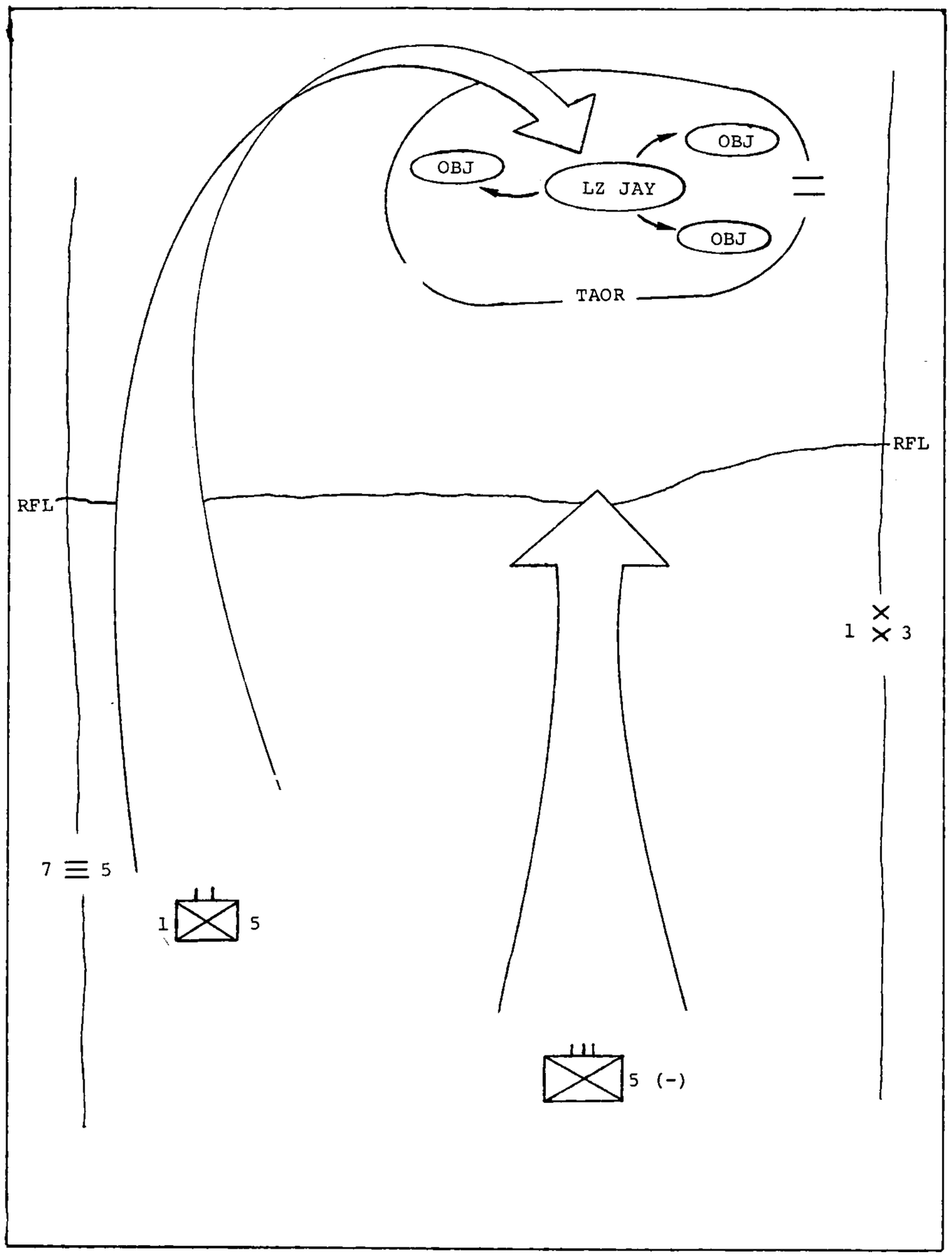

Figure 40.--Helicopterborne Force in the Attack.

(4) Within its TAOR or zone of action, the battalion may move all or a portion of the attacking force by helicopter. During highly fluid situations, the battalion should be prepared to lift all its assets, organic and assigned, by means of the helicopter to apply maximum combat power at the decisive point on the battlefield. Direct support artillery may provide supporting fires from established fire support bases, or may be echeloned forward by helicopter assets in order to provide continuous fire support for the infantry. (See fig. 41.)

b. Planning Considerations

(1) General.--The plan of attack for helicopterborne forces includes the scheme of maneuver, a fire support plan, and a landing plan.

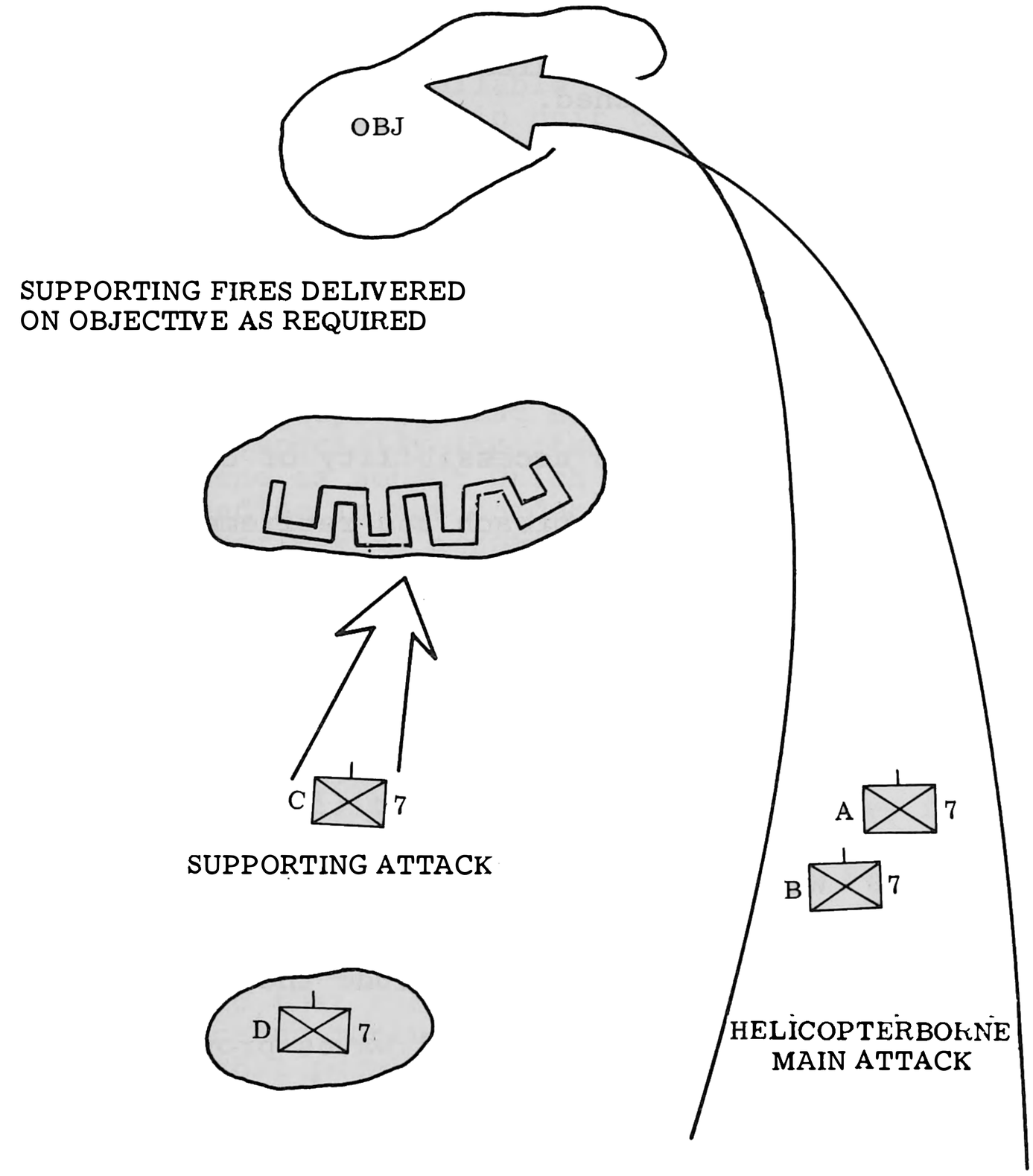

Figure 41.--Helicopterborne Attack by Subordinate Elements of the Battalion.

These three elements are considered in concert when developing the plan. Normally, the ground plan is developed first. The landing plan is then designed to support the scheme of maneuver, and the fire support plan is developed to support both the scheme of maneuver and the landing plan.

(2) Scheme of Maneuver.--The scheme of maneuver includes selection of objectives, boundaries, direction of attack, security measures, and other measures required to coordinate units involved. Determination of the best scheme of maneuver is influenced by the external supporting fires, availability of landing sites and approaches thereto, availability of helicopter units, and logistic considerations. The battalion scheme of maneuver should take maximum advantage of the element of surprise. Proximity of the landing zone to the final objective is considered to ensure surprise and exploitation of the preparatory fires. The ability of helicopters to land troops and supporting weapons on

258-888 O - 78 - 15

important tactical locations which would otherwise be denied to the attacker is exploited. Positions are either rapidly organized for all-around defense or attacks are launched.

(a) In some instances, the final objectives and the landing zone are the same. When enemy defenses are strong or when landing zones on the objective are not suitable, it may be necessary to select intermediate objectives. The selection of the helicopter landing zone is a joint selection made by the helicopterborne unit commander and helicopter unit commander after considering the following:

1 Battalion plan of attack.

2 Location and accessibility of objectives.

3 Helicopter approach and retirement lanes.

4 Enemy capabilities and dispositions, to include the location, type, and density of enemy antiaircraft, armor, and artillery.

5 Fire support capability.

6 Logistic supportability.

7 Nature of the terrain.

8 Wind and weather factors.

(b) A secure landing zone is essential. Specific provisions made for landing zone security include the following:

1 Assuring that initial waves provide landing zone security.

2 Providing for neutralization or destruction of threatening enemy forces.

3 Interdicting enemy approach routes.

4 Preselecting and assuring occupancy of observation posts.

5 Providing for continuous aerial reconnaissance.

(c) Objectives unattainable by normal ground action can be assaulted by helicopterborne troops provided landing zones are reasonably free of obstructions. Terrain features considered as obstacles to normal ground operations are examined for utilization as protective features in a helicopterborne operation.

(d) Landing sites within landing zones are selected jointly by helicopter and helicopterborne troop unit commanders. The size and number of landing sites in the landing zone determine how many helicopters can be landed simultaneously, the size of individual flights or waves, and the time-distance between successive waves. Insufficient landing space increases the time required for a helicopter wave to discharge its load and lengthens the landing interval between successive waves. When the

attack of an objective requires a certain size assault force, a sufficient number of helicopters must be available to land the force without resorting to helicopter turnaround. To retain unit tactical integrity, assault elements are landed in scheduled helicopter waves. It may be desirable for the battalion commander to evaluate his capability to handle remaining waves and on-call serials in the landing zone. If the situation is favorable, the fastest buildup can be accomplished by individual shuttle flights. Its major disadvantage is the loss of desired unit tactical integrity. This method of buildup is restricted when air cover and intense fire support are required.

(e) Helicopters must avoid heavy ground fire concentrations at all times; this is especially important while maneuvering for landing. A battalion landing zone is sought which is close to the objective. However, a helicopter landing is not conducted in strongly defended areas unless there is no other way to accomplish the battalion mission. If such a landing is necessary, it is undertaken only after intensive preparatory fires.

(f) The capability of supporting arms to deliver adequate preparatory fires and to provide continuous fire support after the battalion lands is a primary consideration influencing the selection of the landing zone and initial objectives. In some instances, air may be the only supporting arm with the capability of providing preparatory fires.

(g) Objectives are selected so that seizure will permit accomplishment of the battalion mission.

(h) To avoid enemy visual detection, approach and retirement lanes are selected that take maximum advantage of cover and defilade. When possible, complicated maneuvers are avoided by selecting the approach and retirement lanes that permit the most direct movement. Lanes are also selected to facilitate navigation of the helicopter waves/flights.

(i) Alternate plans must provide for the contingency in which neither the primary nor alternate landing zone can be utilized. Alternate missions are designated in the alternate plan. Landing zones and approaches to support the alternate mission are also selected. To be effective, alternate plans are rehearsed and all personnel are thoroughly briefed.

(j) The initial battalion formation for landing is based primarily on the enemy situation in the vicinity of the selected landing zone(s), size and availability of landing zone(s), battalion mission, and helicopter availability.

1 If the selected landing area is lightly defended, the battalion commander may elect to land all or a major portion of his combat elements simultaneously in one or more landing zones. This technique would allow a rapid buildup of combat power, rapid seizure of defensible objectives, and provide maximum time to reorganize and consolidate positions before the enemy can react to the situation.

2 On the other hand, if the battalion is being inserted into an area of high enemy density, the commander may decide to utilize a single landing zone and land in a column of companies, or two or more companies landing simultaneously. This technique allows the

commander to concentrate covering supporting arms (air, artillery, naval gunfire) around a single landing zone in order to provide a protective barrier of fire around the landing zone, while the assault units are organizing and securing the landing zone.

3 The principal consideration in selecting the formation for landing is that it facilitates the execution of the plan of attack. Assault elements should be organized for combat and placed in the landing zone in such a manner as to be able to first, secure the landing zone against possible enemy counterattack, and then commence offensive actions as soon as is practicable.

(3) Fire Support Plan

(a) Fire support planning for helicopterborne operations follows the same general procedures previously discussed in paragraph 3306 and in section VIII. However, additional considerations of fire support planning for helicopterborne attacks are caused by:

1 The speed of movement and depth of the helicopterborne attack.

2 Vulnerability of the helicopter.

3 Vulnerability of assault elements while landing and immediately thereafter.

4 Helicopter lift limitations.

5 The requirement for neutralization of approach and retirement lanes.

6 The requirement for fire support capability on a 360-degree front following the landing.

7 The possible requirement to establish temporary fire support bases to extend the effective range of direct support artillery during highly mobile operations.

(b) Fire support is planned for all contemplated courses of action. The speed of the helicopterborne force makes careful and detailed plans for coordination of supporting arms necessary. Fire support planning details increase as the number of landing zones and routes of appproach increase. Fire support planning should be of sufficient detail to permit the helicopterborne battalion to change to alternate landing zones and sites.

(c) In order to provide continuous artillery support to maneuver units which will be landed beyond artillery range, it is necessary to select, develop, and occupy artillery positions depending entirely on the use of helicopters. These positions are generally referred to as fire support bases. Very basically, a fire support base is a rapidly constructed artillery position defended by a minimum of infantry, established to support a maneuver force operating away from fixed lines of communications for a limited period of time. The complexities of fire support base operations are similar to those experienced in amphibious operations; therefore, planning and coordination must be very thorough and detailed. In contrast with

a conventional firing position, the fire support base is characterized by its isolation and complete dependence upon the helicopter for support. The fire support base location(s) must be closely integrated with the maneuver force plans, and its development is a joint infantry, artillery, engineer, and air effort. For a more detailed discussion concerning special considerations and planning requirements for fire support base operations, see EMEM 7-4, Field Artillery Support.

(d) Additionally, armed helicopters are available to escort the helicopter assault force to the landing zone and provide local security for the assault elements as they deploy in the landing zone.

1 During the flight to the objective area, armed helicopters are responsible for the destruction or neutralization of enemy forces which threaten the formation. If the force is threatened or attacked, suppressive fires will be placed upon the enemy until the helicopterborne force has passed out of range or until the enemy is neutralized. If the enemy target is not neutralized, the infantry unit commander is notified so that subsequent lifts may avoid the known enemy positions.

2 As the helicopterborne force nears the landing zone, armed helicopters may be designated to conduct a landing zone reconnaissance. Reconnaissance by fire will be employed as necessary. Upon completion of the landing zone reconnaissance, the armed helicopter commander will report the condition of the landing zone to the helicopter unit commander and the troop unit commander. He should be prepared to make a recommendation that the mission be continued, diverted to an alternate landing zone, or aborted.

3 Armed helicopters, in conjunction with close air support aircraft and all available indirect fire support, may be assigned the mission of preparing the landing zone. Well timed preparatory fires, violently executed, will significantly reduce the enemy's capability to interfere with the landing. Armed helicopters will engage targets to assist the ground tactical plan and to cover the arrival and departure of the troop transport helicopters. Designated armed helicopters will normally remain in the area of the landing zone to support the ground force while it organizes for continued operations.

4 A preparation technique, used primarily to gain surprise is to eliminate the aerial reconnaissance and indirect fires and proceed directly to the selected landing zone with four or more armed helicopters followed as closely as possible by the helicopterborne force. The armed helicopters leading the flight provide a violent but brief preparation of the landing zone and the troop lift aircraft land immediately. Other fire support means, artillery, mortars, naval gunfire, and tactical aircraft, may be used to deceive the enemy as to the true locations of the landing zones.

(e) Normally, the enemy situation and the capabilities of supporting fires determine the proximity of the landing zones to objectives. If effective neutralization of the objective can be maintained, assault elements may be landed on or as close to the objective as is necessary. It is important that fire control agencies (FO's, forward air controllers, gunfire spot teams) of the battalion be landed early in order to permit rapid exploitation of the supporting fires.

(f) If nuclear weapons are employed, preparation of the initial landing zones and their approaches presents no particular difficulty as safe distances for friendly forces can be ensured. Subsequent nuclear support requires careful consideration. Positive coordination means must be available to the battalion commander as helicopters are much more vulnerable to nuclear effects than are ground forces. Holding of loaded helicopters in safe areas is required. In order to ensure the safety of helicopters that are to be airborne at the time of nuclear detonation, easily recognized control points are designated beyond which the helicopters will not proceed.

(g) A nuclear preparation can be accomplished during a very brief period as it may consist of only one weapon. The time of landing, however, is definitely predicated on an accurate delivery of the nuclear weapon. Consequently, a tentative time of landing may be announced but not confirmed until nuclear delivery has been successfully made.

(h) In arriving at the time of landing, attention must be given to predicting residual radiation and visibility. Wind direction is most important. To assure neutralization up to the time of landing, the nuclear preparation may be followed by firing conventional fires until such time as troops can land safely. Prior to the landing, monitoring is conducted to verify the amount of ground contamination in the landing zone.

(4) Antimechanized Defense Planning

(a) A detailed antimechanized defense plan is prepared to ensure optimum employment of all available antitank weapons and supporting arms. When additional antitank support is needed, elements of the tank battalion may be included in the force attacking over land that effects linkup with the helicopterborne landing.

(b) Organic Dragons and rocket launchers are placed where they can cover avenues suited for armored employment that lead into the landing zone and into assigned objectives. When antitank coverage is inadequate, it may be necessary to establish hasty antitank minefields.

(c) When a helicopterborne force is to be inserted in an area where the enemy enjoys armored support, the commander must take every precaution to protect the assault force. Fixed-wing aircraft and armed helicopters must concentrate their activities around the landing zone, to block enemy armored approaches, and to destroy armor within capabilities. This concentration of attack effort to support the helicopterborne force may have priority over close air support missions on other parts of the battlefields. Of necessity, there will be a commensurate increase in the use of other fire support means to pick up the slack in those areas denied fixed-wing support.

(5) Landing Plan.--The primary purpose of the landing plan is to ensure that the battalion is landed at the proper place, at the correct time, and in a formation which will facilitate the attack. The landing plan provides heliteam assignments for subordinate units, procedures for loading and debarkation, formation of waves and serials, and other considerations appropriate to the helicopter movement. In effect, the landing plan is a precise timetable for the movement of troops and equipment by helicopter. See FMFM 3-3, Helicopterborne Operations, for detailed information on the preparation of landing documents.

c. Reconnaissance

(1) Whenever practical, the battalion commander, his staff, and company commanders make an aerial reconnaissance. Ground reconnaissance patrols may be moved by helicopters from area to area to obtain as much information as is necessary to conduct the helicopterborne operation.

(2) The plan for reconnaissance after landing should require that ground reconnaissance begin immediately after landing, that reconnaissance detachments move out swiftly to establish contact, and that reconnaissance patrols operate in designated areas.

d. Conduct of the Landing and Attack

(1) The landing is executed with maximum speed and precision. Companies are landed as close to their objectives as possible. When the situation requires it, helicopterborne companies are ordered to land in alternate landing zones. Upon landing, leading elements of the assault companies move to previously assigned areas and take positions that permit protection of subsequent waves. The seizing of positions to protect the landing zone is specified in the operation order. All troops and company officers are thoroughly briefed, and when time permits, the conduct of the landing and attack are rehearsed to ensure that all individuals understand the plan.

(2) After landing, the companies assemble quickly, reorganize, assault, and seize their objectives. Control begins at the lowest level and is progressively taken over by higher commanders.

(3) When required, defense against enemy armor is established early and is progressively strengthened. Reconnaissance elements move out to make contact with the enemy.

(4) Once assigned company objectives have been seized, the battalion takes action necessary to accomplish its mission(s). Throughout the conduct of the attack, the battalion prepares data for, and calls for, fires to support its attack.

(5) Should the mission assigned to the battalion require it to prepare a defensive position, it disperses its companies consistent with its ability to accomplish the battalion mission.

e. Linkup of Forces.--Battalions frequently participate in helicopterborne operations which require a linkup with forces which have attacked overland. The period required to effect a linkup is more critical when substantial enemy forces lie between the two friendly forces.

(1) Plans are made to ensure the coordinated employment of the two forces. Unity of command is obtained by higher authority specifying the overall commander and establishing the conditions under which he assumes overall command. He may be the helicopterborne unit commander or the commander of the ground force making the contact.

(2) Orders issued by the common superior of forces that are to execute a linkup include, as a minimum:

(a) Designation of the commander responsible for controlling and coordinating the linkup.

(b) Time or conditions under which overall command will commence and terminate.

(c) General provisions as to time and locations for effecting linkup.

(3) Based on these general instructions, the overall commander prepares detailed primary and alternate plans for linkup. These plans may be promulgated in the form of annexes to his basic operation plan or as a separate operation plan. Copies are distributed to all units involved. In addition to the above, the following may be included:

(a) Tactical control measures to include the designation of linkup points, phase lines, routes, zones, and assembly areas.

(b) Provisions for the control and coordination of fires to include location of coordinated fire lines, fire support coordination lines, restrictive fire lines, airspace coordination areas, and plans for delivery of protective fires while the linkup is in progress. (See fig. 42.)

(c) Limitations to be imposed on maneuver of troop units within the area where linkup occurs.

(d) Assistance to be provided to the incoming force, such as guides, traffic control, clearance of obstacles, preparation of assembly areas, communication facilities, logistic support, and other required services.

(e) Methods of ensuring mutual recognition and identification of units and positions.

(f) Exchange of communication frequencies and liaison personnel prior to and during the linkup, to include helicopters and other aircraft employed.

f. Employment of Helicopters in Night Attack

(1) General.--A battalion may participate in a helicopterborne night attack, either alone or in conjunction with other units attacking overland. The use of electronic or visual aids to navigation is required to be successful; however, certain open terrain may allow landing of the assault force without such aids. Depending on the terrain, the mission, and the degree of enemy resistance anticipated, helicopters may land the battalion, or portions thereof, directly on the objective or on positions within foot march of the battalion objective. In either case, basic procedures for conducting a night attack apply. If the enemy situation precludes employment of the helicopter to land the assault troops, helicopters may be employed to displace reserve companies and supporting weapons forward to the objective once it has been secured by ground attack. The most desirable technique would be to conduct a helicopter-landed night attack to the rear of enemy positions without relying on artificial illumination. For detailed discussion of employing helicopters in night operations, see EMEM 3-3, Helicopterborne Operations.

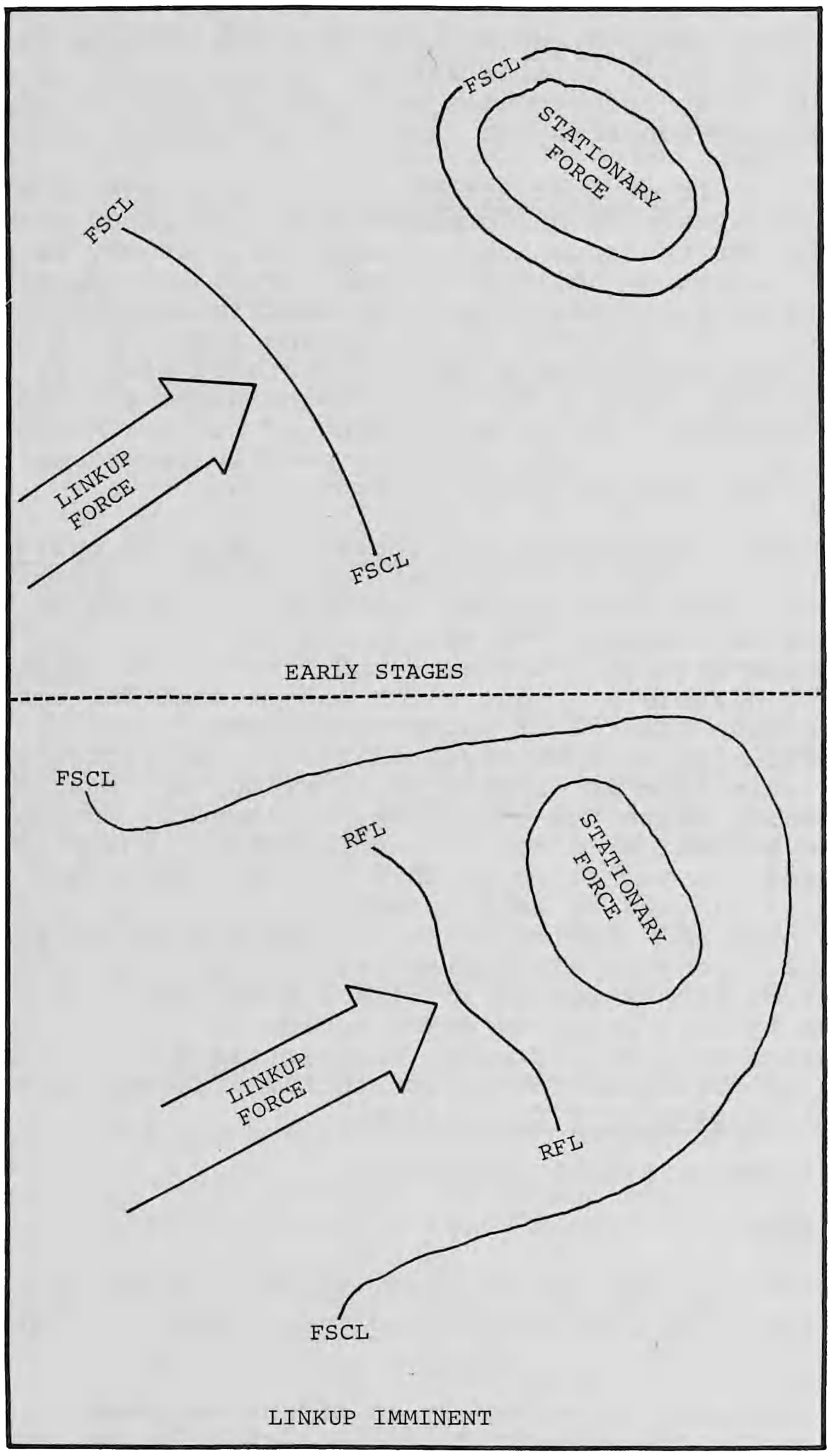

Figure 42.--Coordination and Control Measures During Contact and Linkup Between Helicopterborne Force and Ground Unit.

(2) Planning Considerations.--Plans for employment of helicopters in conjunction with a battalion attack at night hinge on the time the attack must be carried out in order to accomplish the battalion mission. Factors discussed in relation to the time of attack are:

(a) Early Night Attacks.--In the seizure of a battalion objective after nightfall, initial assault elements land at dusk and install navigational aids in approach routes and landing zones so that subsequent serials of troops and supplies can land during complete darkness.

(b) Late Night Attacks.--If the attack is scheduled for late at night, employment of helicopters is accomplished after positioning navigational aids for the approach and landings. It may be possible to employ parachute-landed or helicopterborne terminal guidance teams to install necessary navigational aids. The terrain and the degree of darkness also influence the decision on conducting night helicopter operations. Bright moonlight and recognizable terrain features simplify navigational problems and may make possible helicopterborne night attacks, which may otherwise be infeasible. In the employment of nuclear weapons in preparation for helicopterborne night attacks, positive measures are taken to protect pilot vision from the flash of explosion.

(c) Coordinated Helicopterborne Night Operations.--The battalion may conduct operations wherein one or more companies are moved by helicopter while the remainder of the battalion moves on the ground. Detailed planning is necessary to coordinate the actions of both forces. Where a coordinated attack is contemplated, the terrain must afford features easily recognizable at night which can be used for coordination purposes and positive control of supporting fires. Specific and detailed means of identification must be arranged for mutual recognition. Normally, an operation of this type is limited to a helicopter assault by one or more companies which seize the objective, followed by movement of the remainder of the battalion on the ground to effect linkup after the objective is secured. A variation of this is a ground attack by elements of the battalion, followed by helicopterborne reinforcements after the objective is secured and landing sites cleared and marked with necessary navigational aids. In some circumstances, it may be possible to position certain elements of the battalion in attack positions by helicopter, while other units move by foot prior to commencement of the attack. For further information concerning night attacks, see paragraph 3313. For detailed information of the employment of helicopterborne forces in the attack, see FMFM 3-3, Helicopterborne Operations.

3312. TANK-INFANTRY OFFENSIVE OPERATIONS

a. General

(1) This paragraph discusses the tank-infantry team. See FMFM 9-1, Tank Employment/Antimechanized Operations, for detailed information.

(2) The tank is primarily an offensive weapon. It is employed to carry the fight to the enemy. To accomplish this, maximum use is made of its armor-protected firepower, mobility, speed, and shock action. It is normally employed as a part of a tank-infantry team. Successful employment depends upon the mutual support obtained within the team.

b. Limitations.--The limitations of the tank when employed with the infantry are its:

(1) Limited observation and communication with infantry.

(2) Vulnerability to mines and antitank weapons.

c. Methods of Attack.--In the attack, one or more of the three fundamental methods of the tank-infantry team may be employed. In the first two methods discussed, the attacks are so timed that both the tanks and infantry arrive on the objective simultaneously or the tanks arrive on the objective in advance of the infantry. The three basic methods of attack are:

(1) Tanks and Infantry on the Same Axis

(a) In this method of attack, a single axis is used by the attacking force to approach the objective. It is employed when one good avenue of approach exists for both tanks and infantry.

(b) Techniques of application of this method vary, depending upon terrain, fields of fire, obstacles, and the enemy situation. When visibility, maneuver, and fields of fire are restricted, tanks and infantry should advance within mutual supporting distance of each other. When practical, tanks lead. However, when terrain immediately in front of the line of departure is not favorable, or in order to gain surprise, tanks may initially support by fire while the infantry advances. When the infantry attack has progressed to a point where tanks can no longer fire, the tanks then move forward and either join the infantry in the final assault or pass through the infantry and lead the assault. The principal consideration in selecting the particular technique to be applied in this method is the rate of advance which is desirable and possible. Whether tanks or infantry lead, or move simultaneously, the tanks are used to attain the greatest volume of fire and shock action.

(c) The advantages of this method are:

1 Infantry protects the tanks, and tanks support the infantry.

2 Teamwork and coordination are facilitated.

(d) The disadvantages of this method are:

1 It is slow and allows the enemy time to increase the intensity of his fires and time to shift reserves to meet the threat.

2 Tanks are vulnerable because of the slowness of the rate of advance.

3 Shock action of the tanks is decreased.

4 Degree of surprise is reduced.

(2) Tanks and Infantry Attack on Two Converging Axes.--In this method of attack, two different axes are used by the attacking force to approach a common objective. This method is usually preferred since it offers the maximum opportunity to achieve surprise and forces the enemy to fight on two fronts. Its adoption depends primarily on the availability of suitable approach routes.

(a) When utilizing this method of attack, the infantry may be alone on one axis and tanks alone on another. However, this does not preclude the possibility of having both tanks and infantry on each axis. On one axis will be the infantry or predominantly infantry supported by tanks, and on the other will be tanks or predominantly tanks supported by infantry.

(b) This method normally achieves maximum surprise, firepower, and shock action, but coordination of the assault is more difficult than in other methods. The tank force will normally support the infantry advance by fire until the infantry is ready for the assault. At this time, both forces converge on the common objective so as to arrive on the objective simultaneously. If one force is composed of tanks alone and the other force of infantry alone, the final assault may be timed so the tanks arrive first, protected by artillery air bursts, and the infantry follows closely behind after the air bursts are lifted.

(c) Advantages of this method are that it:

1 Usually provides the most surprise.

2 Provides maximum use of tank firepower, mobility, and shock action.

3 Requires the enemy to fight in two directions.

4 Usually is most economical in the employment of men and equipment.

(3) Tanks Support Infantry by Fire

(a) This method consists of an infantry attack to seize the objective; tanks support the attack by fire only. Conditions that may dictate the adoption of this method occur when:

1 Obstacles to tanks exist which can only be overcome by engineer effort, and an attack must be launched by infantry to uncover the obstacles and to protect the work detail.

2 The attack is to include seizure of ground which is completely impassable to tanks.

(b) This method of attack is the least desirable, and it should be employed only when conditions exist that preclude the physical presence of the tanks in the assault. As soon as the obstacles are breached or a suitable avenue of approach is uncovered, the tanks should rapidly join the infantry on the objective.

(c) The advantage of this method is that it requires minimal coordination.

(d) The disadvantages of this method are that:

1 The mobility, shock action, and close support provided by the tanks are lost.

2 Tanks are not immediately available for repelling hostile counterattacks.

3 Elements of the team are separated.

d. Initial Planning by Tank-Infantry Teams

(1) The coordinated detailed planning required for tank-infantry offensive operations begins when the battalion commander and the tank unit commander receive their orders. Immediate liaison is established to effect planning. The tank unit commanders make specific recommendations to support the proposed courses of action. In arriving at a decision, the two commanders confer on the following:

(a) Exchange of intelligence.

(b) Detailed assignment of tank units to infantry units.

(c) Reconnaissance.

(d) Communications and special signals.

(e) Scheme of maneuver.

1 Selection of objective(s).

2 Infantry formations and tank formations.

3 Routes of approach.

4 Any changes of formation which are to be undertaken prior to the seizure of the objectives.

5 Distance between formations.

6 Guides.

7 Obstacles and mine removal.

8 Destruction of antitank guns.

(f) Plans for organizing and defending the principal objective and for continuing action.

(2) Employment of supporting arms is considered in the initial planning conference and a decision made as to the location of observers, either inside the tanks or with the infantry, for the various arms.

(3) Tank and infantry tactics on occasion have conflicting requirements. For example, a partially obstructed defile is a poor tank route of approach, but may be an excellent infantry route of approach. Conversely, open, gently rolling terrain is an excellent tank route of approach, but it is undesirable for infantry. It is in the initial conference that such considerations are resolved.

e. Communications.--From the time tanks and infantry approach the LOD until the objective is seized, dependable tank-infantry communications are essential. In addition to established communication means

such as arm-and-hand signals, others which are easily discernible may be used. The following are examples of simple communication means which facilitate tank-infantry coordination:

(1) From Infantry to Tank

(a) Waving a colored panel means "We are friendly troops." This signal is particularly valuable when friendly troops are endangered by tank fires.

(b) Two infantrymen holding their entrenching tools upright and stationary means "You will not endanger anyone by passing between the markers." This signal is used when tanks and infantry become intermingled.

(c) The familiar "okay" sign made with the hand open and the index finger and thumb circling means "understood" or "on target."

(d) Pointing to the mouth means "I want to talk to you."

(2) Tanks to Infantry

(a) A green flag displayed from the loader's hatch means "I have received your signal and understand same."

(b) Two flags of any color combination means "Tank in distress--need infantry assistance."

(c) Yellow flag displayed from the loader's hatch means "I will not fire until I have received further instructions from you; it is safe to advance in front of me."

(d) When a tank is preparing to back down from a stationary position, the infantry will be alerted by radio.

(e) Red flag displayed from the loader's hatch means "Tank out of ammunition or fuel and must withdraw, but will return as soon as possible."

(f) Other emergency signals may be prescribed in unit standing operating procedures.

f. Identification

(1) Tanks.--A standard, easily understood numbering system is employed to permit rapid identification of tank units by supported infantry. It permits the identification of individual tanks, platoon commander's tank, company commander's tank, and battalion commander's tank (if applicable).

(2) Infantry.--It is essential that the tank commander be able to readily identify the subordinate infantry unit commander and his second in command. Otherwise, conflicts in orders may occur. Many devices are available and are limited only by the ingenuity of the members of the tank-infantry team.

g. Passage of Lines.--A difficult maneuver for tanks and infantry to execute is the passage of lines. It is a hazardous period for tanks, since they must ensure the safety of friendly infantry and at the same time take up the attack. The infantry is in a comparable situation. Furthermore, the appearance of tanks may signal to the enemy the commencement of the attack, and the infantry may be the recipient of intensive fire directed at the tanks. For this reason, the passage should be effected expeditiously.

(1) Battalion units mark their own frontlines and the points of passage for tanks. This should be accomplished prior to the arrival of the tanks and can be effected using one of the following:

(a) Frontline panels.

(b) Tape, either engineer issue or field expedient.

(c) Holding an item of equipment over their heads as the tanks approach.

(d) Use of guides.

(2) The tank unit commander must notify infantry commanders of the locality where the tank passage will be made. Also, it should be agreed that the tanks may commence firing after the passage has been accomplished. Careful planning and supervision are necessary for proper execution of passage of lines during reduced visibility.

h. Target Designation.--It is difficult for tank personnel to locate a small target. Usually, the infantry will be the first to note the location of such targets. When the infantry desires targets to be taken under fire by tanks, one of the following methods may be used (see fig. 43):

(1) Arm-and-Hand Signals.--Indicate the direction of the target by pointing with the arm and hand, or with a rifle. Give the range by hand signals. Sensings to the tank crew of an "over" (thumb pointed up) or "short" (thumb pointed down) for each successive round should be given until the gunner is on the target. Right or left may also be indicated by pointing. To indicate that fire is on the target and should continue, the "okay" signal is given. If no further fire is required on the target, use the conventional "cease fire" signal. The man giving the target designation signals should be at the right rear of the platoon commander's tank, at a distance of about 15 meters. He must not be closer than 10 meters from the rear of the tank because of the vision angle of the tank's cupola.

(2) Telephone or Radio.--When designating targets by voice over the tank-infantry phone or radio, the clock system should be used. The axis of the tank is assumed to point through the bow of the tank to 12 o'clock.

(3) Smoke.--Smoke grenades may be used to designate a target. While only one smoke grenade may be required to designate a close target, it is better to use two smoke grenades to designate a distant target when it is necessary to indicate the tank-target line.

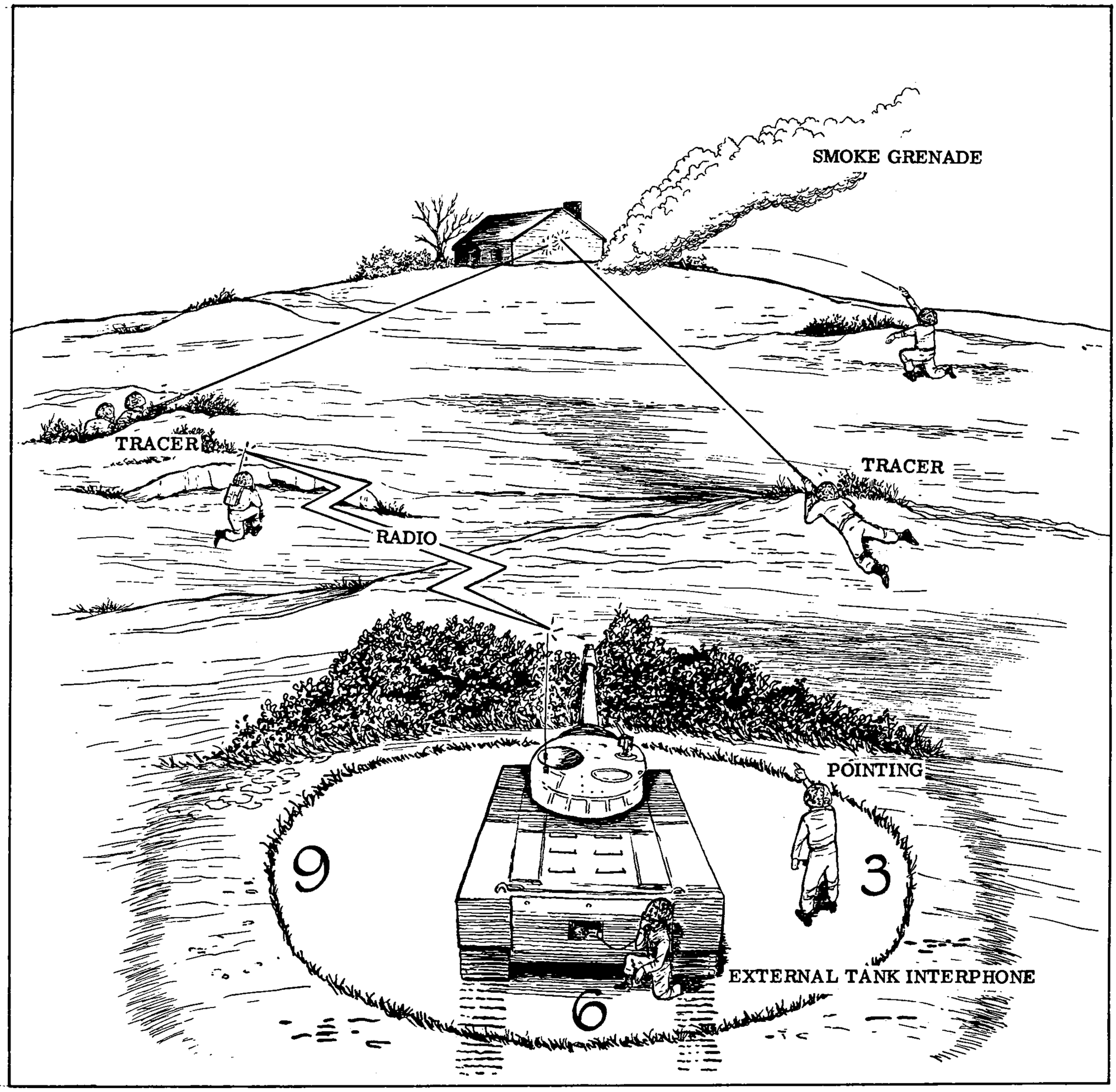

Figure 43.--Examples of Target Designation.

(4) Tracer.--Targets may be designated by tracer fire in the conventional manner.

i. Guides.--It is frequently necessary to employ tank units in areas that tank personnel have not previously reconnoitered. Also, it is rarely possible to keep the tanks continuously in action to the extent that tank personnel become familiar with the situation at any given location on the front. Therefore, guides for the tanks will greatly increase tank efficiency. The guides should come from the unit which the tanks are

to support and should be familiar with the frontlines. Guides should point out routes for the tanks and the location of friendly infantry units. They are usually able to point out the location of enemy resistance which caused the tanks to be required.

j. Infantry Cover of Tanks.--Tanks are vulnerable to close-in attack by tank-killer teams. Friendly infantry can, in many cases, prevent such attacks. The infantry furnishes protection to all tanks operating in its zone, or specific infantry units are assigned to provide protection for specific tanks.

(1) If the infantry is to protect all tanks operating in its zone, it will cover the tanks by small arms fire.

(2) If specific infantry is to provide protection for specific tanks, a fire team or squad may be assigned to each tank. The fire team follows the tank, taking advantage of cover and concealment and serving as the eyes and ears of the tank. Personnel of the team indicate targets and warn the tank crew of danger. The team also protects the tank from close-in attack. This technique is particularly desirable for a rapid advance and desirable in those situations when the distance between objectives is great.

k. Command Coordination.--Tanks are used most effectively when the efforts of tanks, infantry, artillery, and engineers are integrated. In order to obtain proper command coordination of such integration, tank and infantry commanders must not only have adequate communications but, whenever possible, should be in physical proximity of each other. Physical proximity may be accomplished by one of the following methods:

(1) Command tank remains with or near the infantry commander.

(2) Infantry commander rides in the command tank.

(3) Tank unit commander or liaison officer remains with the infantry commander. In this case, the tank commander or his representative is equipped with a tank liaison radio.

l. Exploitation and Pursuit.--Tanks assist in the final mopping-up of resistance and initial organization of the objective until antitank weapons are brought forward. Exploitation and pursuit are normally characterized by rapid and aggressive action utilizing tanks as part of the exploiting forces.

3313. NIGHT ATTACKS

a. General

(1) In battalion operations, the ability to conduct night operations cannot be overemphasized. Offensive actions which are carried out at night or under conditions of limited visibility can very often achieve success where a daylight attack would be impracticable. Night attacks are employed to achieve one or more of the following purposes:

(a) To avoid heavy losses that would likely result from daylight attacks undertaken under the same conditions.

(b) To achieve tactical surprise.

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(c) To complete or exploit a prior success and to maintain pressure against the enemy.

(d) To compensate for inferior combat power.

(2) When sufficient illumination is provided to approximate visibility conditions of daylight, tactics employed are similar to those for the daylight attack. Consequently, the type of night attack discussed here is one which is conducted under cover of darkness, where stealth is employed in order to achieve secrecy and surprise.

b. Advantages and Disadvantages.--In planning and executing night attacks, the battalion commander considers the advantages and disadvantages.

(1) Advantages

(a) Concealment from enemy observation.

(b) Decreased effectiveness of enemy aimed fires.

(c) Tactical surprise.

(d) Psychological advantages.

(2) Disadvantages

(a) More time and effort are required to plan, coordinate, and execute a night attack.

(b) Control and maintenance of direction is difficult.

(c) Coordination of supporting arms is difficult.

(d) Reduced air support available in zone of action or areas where aircraft ordnance cannot be delivered without being under the control of a FAC or TAC(A).

(e) Inability to rapidly concentrate forces for the assault.

(f) Difficulty in maintaining secrecy.

(g) Logistic functions are more time-consuming and normally less efficient.

(h) Initial restrictions of communications, particularly radio.

c. Essentials of a Night Attack.--The following are considered to be the essentials for the conduct of a successful night attack:

(1) Night Offensive Training.--Increased emphasis is placed on night training. Such training includes individual as well as unit training in all aspects of operations under conditions of reduced visibility.

(2) Rested Troops.--Night activity is more fatiguing than similar daylight activity. Although training can overcome this to a

certain degree, it is necessary that troops be rested prior to participating in a night attack. Rest also prevents the detrimental effect of fatigue on night vision.

(3) Information and Reconnaissance of the Area

(a) Information.--All available maps and photographs are studied to obtain as much information as possible about the area. Also, they are distributed to all subordinate commanders to assist them in their planning.

(b) Reconnaissance

1 Reconnaissance is conducted to determine the nature of the objective, routes to the objective, and the characteristics of any key terrain features. Also determined are assembly areas, attack positions, routes, line of departure, release points, and probable line of deployment. Reconnaissance of terrain not held by friendly troops is usually limited to observation from friendly frontlines and aerial observation, when possible. However, the situation and time available may permit daylight patrolling to the objective or in the vicinity of the objective.

2 Patrols conducted at dusk and during darkness determine night aspects of the terrain, enemy obstacles, dispositions, and the activity of enemy patrols. Night patrols should, if possible, patrol all the way to the objective. Often detailed information of the enemy and the terrain can only be obtained from patrols conducted at dusk and during darkness. Every effort is made to have commanders, and especially small unit leaders, occupy observation posts which allow a good view of their area of operations from the beginnning of evening twilight until darkness. This will allow them to gain firsthand knowledge and familiarity with the appearance of terrain features as they appear at night.

(4) Time for Preparation.--Sufficient time during daylight and darkness must be available for all units to conduct reconnaissance and make thorough and detailed plans. Also, sufficient time must be available for adequate dissemination of plans to all units.

(5) Simple Plan and Detailed Order.--Because of the difficulty of maneuver, control, and coordination in night operations, orders are necessarily detailed to ensure the maximum amount of control and coordination. The plan must be simple, normally involving as little lateral movement as possible from the attack position to the objective.

(6) Easily Identified, Limited, Single Objective.--Because of the difficulties of control, reorganization, and consolidation, and the inability to properly reconnoiter a second objective, the objective for a night attack should be easily identifiable at night, should be in proximity to the attacking unit, and should consist of only one objective.

(7) Secrecy in Preparation and Surprise in Execution

(a) Measures must be taken to ensure secrecy during daylight and night preparation. Limitations are placed upon the size of patrols, and the movement of supplies and vehicles is kept to a minimum. Members of patrols sent out immediately prior to night attacks are not normally made aware of the attack plans.

(b) Excessive registration of additional weapons is avoided.

(c) During the execution of a night attack, silent movement is maintained so that surprise can be achieved and the size and direction of attack is not revealed. If the possibility of achieving surprise is remote, then full use is made of illumination and supporting fires.

(d) Surprise may also be obtained by executing a deception plan at one point of the battlefield, and rapidly inserting helicopterborne forces at another. Stealthy attack may be forsaken in favor of the speed and violence of the helicopterborne attack. Surprise is obtained by placing the enemy in a position where he cannot react to the rapid insertion of the helicopterborne force before that force has seized and consolidated a key terrain objective. See paragraph 3311f for discussion of helicopter employment during the night attack.

d. Scheme of Maneuver

(1) General.--The night attack is conducted in three successive phases: the advance (movement from the LD to the probable line of deployment), the assault (movement from the probable line of deployment to and across the objective), and the consolidation and reorganization.

(2) Objectives.--In addition to normal requirements, objectives for a night attack should be:

(a) Easily identifiable at night and provide terrain features that will assist in maintaining direction.

(b) Limited in width and depth so that it may be seized in a single assault.

(c) Accessible by well-defined, suitable routes of approach.

(3) Form of Maneuver.--Normally, the terrain and enemy disposition will determine the direction of attack. Since the immediate front of an enemy position is usually well-defended, consideration is given to the possibility of conducting the attack against the enemy flank. Routes of approach should be direct, free of obstructions, and well-defined. Adjacent terrain features are used to aid in maintaining direction. Changes of direction after crossing the LOD except for short distances, are avoided.

(4) Formation

(a) Assault Echelon.--The strength of the assault echelon is determined by the size of the objective and the strength of the enemy. The frontage normally assigned a rifle company is less than that assigned for a daylight operation unless illumination approximating daylight is used. At all times, each man should be in visual contact with the man to either side. Zones of action are designated by assigning the assault companies a portion of the objective and by establishing a boundary between them when suitable terrain features exist.

(b) Reserve.--Since complicated maneuvers are rarely possible at night, a large reserve is not required. The reserve is normally charged with the mission of being prepared to assume the mission of any attacking element prior to the attack. Except in very unusual circumstances, the reserve is not committed to maneuver against the objective after the attack begins. Deviation from this rule requires the existence of good visibility and the use of separate routes to ensure that the reserve does not become involved with the other attacking companies. Where the distance to the objective is not great, it is normal to hold the reserve behind or near the LOD until the objective is secured. Thereafter, it displaces rapidly onto the objective to assist in the consolidation. If the distance to the objective is great, the reserve may be directed to advance by bounds at a distance to the rear of the assault echelon to prevent its becoming involved in the assault. The reserve may also be assigned such additional missions as protection of the battalion flanks and rear, provision of security patrols and guides, mopping-up operations behind the assault echelon, and the elimination of any enemy patrols behind the assault echelons.

(c) Tanks.--Unless illumination approximating daylight is used, tanks do not normally accompany the assault echelon. Tanks may provide fire support and illumination for the attack and move up to the objective after it is seized or visibility allows.

(5) Time of Attack.--The time of attack may or may not be designated by the regimental commander. If the attack is to be made by only one battalion, the regimental commander may allow a certain latitude in determining the time of attack. If the attack is to be made by more than one battalion, the regimental commander normally prescribes the time of attack. Attacks conducted shortly after darkness are made to strike the enemy when he is attempting to reorganize or reinforce his position, when enemy operations are anticipated, or when the objective is to be seized and held. When a general attack is to be continued at daylight, the night attack should be made after midnight to deny the enemy time to organize an effective night counterattack after he is driven from the objective. In either case, the consolidation is completed prior to daylight. In fixing the exact time for a night attack, the distance to the objective and type terrain involved are considered. In addition, the time of moonrise and moonset, the time needed to assemble and form troops, the time needed to effect reorganization on the objective, and the patrolling habits of the enemy are considered.

(6) Control.--The difficulty of maintaining control at night can be overcome or minimized by the use of appropriate control measures.

(a) Assembly Area.--The assembly area serves the same purpose as it does for any offensive operation. It may be closer to the attack positions than in daylight to minimize the difficulty of control in moving at night.

(b) Attack Position.--Attack positions may be occupied for brief, final coordination immediately prior to crossing the LOD. They are located as close as possible to the LD and in open terrain, preferably in defilade. They should be large enough to contain the entire assault echelon.

(c) Line of Departure.--The LOD for a night attack serves the same purpose as for a daylight attack. It should be located as close as possible to the objective to preclude any unnecessary movement. It must be under the control of friendly troops. Points of departure are located along the LOD.

(d) Release Points.--A release point is a clearly defined point on a route at which specified elements of a column revert to the command of their respective commanders. If the battalion conducts its advance from the LOD in a column of companies, the company release point would be located between the LOD and the probable line of deployment. The terrain, the distance from the LOD to the objective, and the location of enemy security units would determine the actual location. The battalion commander designates the company release point. If the battalion conducts its advance from the attack position or LOD with companies in line, the attack position or LOD may serve as the company release point. Platoon and squad release points are designated by appropriate subordinate commanders, as required, to facilitate orderly deployment prior to arrival at the probable line of deployment.

(e) Probable Line of Deployment.--The probable line of deployment is a designated line that the battalion commander plans to reach without the enemy's knowledge and at which final deployment for the assault is accomplished. It is located so as to be within assaulting distance of the objective. At the probable line of deployment, the battalion makes its final deployment.

(f) Phase Lines and Checkpoints.--Phase lines and checkpoints are used in the same manner and for the same reasons as in the daylight attack. They are used much more extensively during night attacks for reporting and control, and may be used to control supporting fires.

(g) Guides.--If needed, guides are used to lead units from the assembly area to attack positions, to the LOD, to successive release points, and finally to the probable line of deployment. Security detachments which precede assault units may act as guides. Guides may be used to guide supporting units to the objective once it is seized. When possible, personnel who have engaged in night patrols of the area are used as guides.

(h) Rate of Advance.--In order that the units of the assault echelon may reach the probable line of deployment at the same time, a method and rate of advance are sometimes prescribed. This can be done by having the companies halt at well-defined phase lines and proceed on a time schedule or on order of the battalion commander.

(i) Connecting Files.--Connecting files, both in depth and laterally between advancing columns, are employed to maintain contact and aid in control during movement.

(j) Identification Means.--Means by which individuals can identify friendly troops and aid visual contact are provided. The greater the amount of illumination used, the less critical this measure becomes. Luminous buttons, white cloth, white adhesive tape, or any similar material is very useful for individual identification.

(k) Limit of Advance (LOA).--A limit of advance is a terrain feature easily recognized in the dark (stream, road, edge of woods, etc.) beyond which assaulting elements will not advance without specific permission of the commander establishing it. It is far enough beyond the objective to allow security elements space to operate.

(7) Method of Movement.--When the battalion is passing through another unit before attacking, it may advance from the attack positions to company release points in a column of companies. Or, when the attack position serves also as the company release point, the battalion may advance from the attack position in a line of companies with each company in column of platoons or each company in line, each platoon in column. The method of movement that the battalion commander selects is dependent upon the distance to the objective and the terrain. If the objective is close to the line of departure and the terrain is open, the attack positions may also serve as company release points and the battalion may advance in line. When the battalion makes a night attack from a frontline position, the line of departure normally serves as the company release point and the battalion advances in line. During the advance, intervals between units are such that skirmish lines can be formed immediately in case of enemy discovery before the probable line of deployment is reached. (See figs. 44 and 45.)

(8) Security.--Security detachments from each platoon, usually a fire team, secure positions along the probable line of deployment before the advance of the major elements of the assault echelon. In addition, security elements operate ahead and to the flanks of units as they move from the line of departure to the probable line of deployment.

(9) Consolidation.--After seizure of the objective, each company immediately consolidates its portion of the objective. Security elements are sent out far enough to prevent the enemy's forming for counterattack within assaulting distance of the seized position. Defensive fires are adjusted and direct fire weapons are brought forward to cover avenues of approach. It will be necessary to displace mortars forward when their most effective ranges have been exceeded by the advance. The consolidation is completed prior to daylight and preparations are completed for continuing the attack.

e. Plan of Fire Support.--Night attacks, with respect to employment of supporting fires, are classified as "supported" or "unsupported." In an attack against a well-organized position where the possibility of achieving surprise is remote, preparatory fires, fires in support of the attack, and fires to defend the objective are employed. This is a "supported" attack. In an attack against a hastily organized position where the possibility of surprise is good, preparatory fires and fires in support of the attack are planned, but they are employed only when it becomes necessary. This is an "unsupported" attack. Fires for the supported attack may be delivered on a time schedule, on a prearranged signal, or on call. The scheduled fire has little or no application in the unsupported attack. If illumination approximating daylight is used, direct fire weapons are coordinated with the fires of mortars and artillery. Selection of firing positions for weapons, their movement, and their registration are accomplished during daylight. When low visibility precludes the effective use of tanks and other direct fire weapons, they normally remain in readiness. However, when the terrain is suitable and the distance to the objective is great, hand-carried, direct-fire weapons follow the assault echelon at such a distance that they provide support,

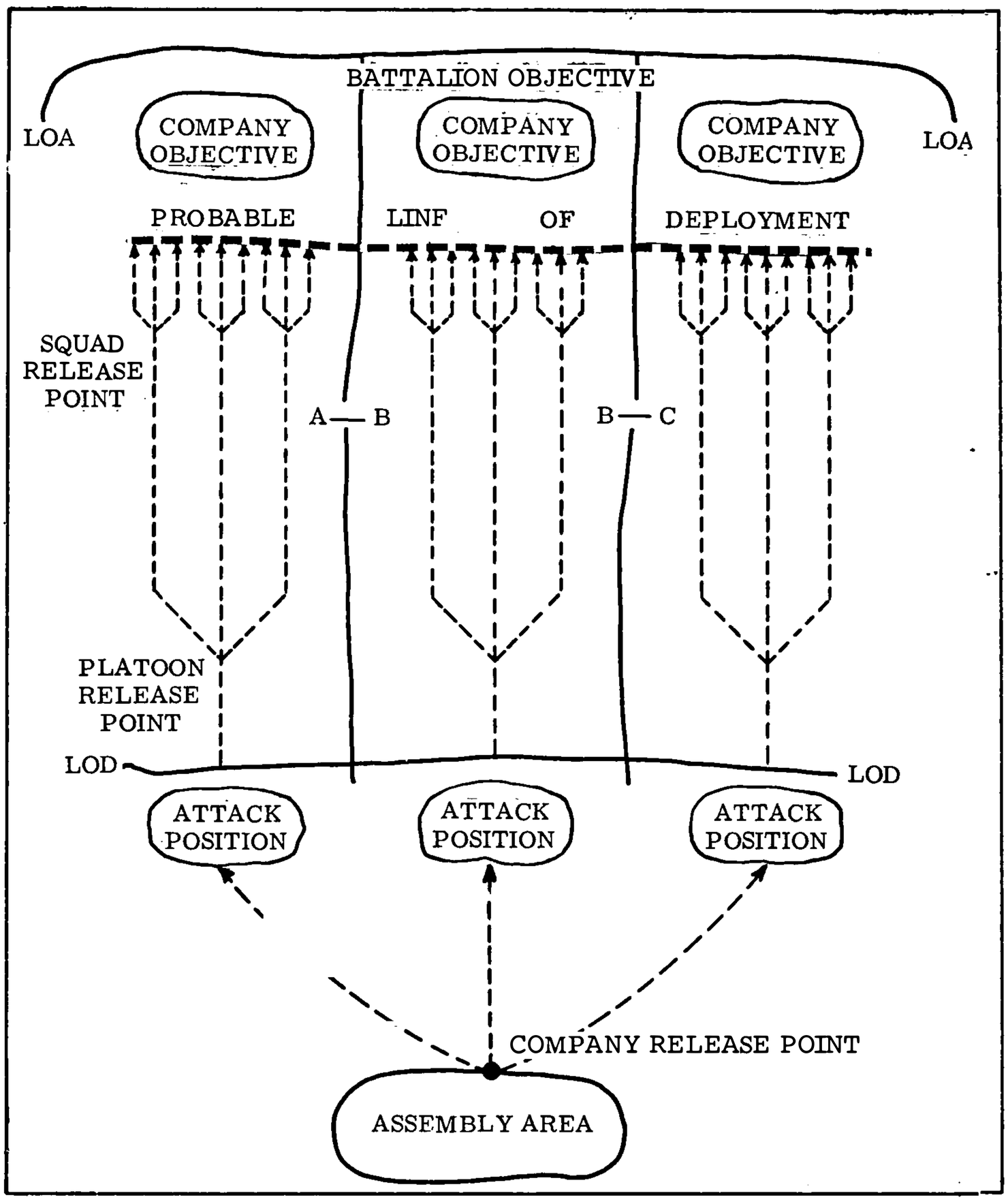


Figure 44.--Battalion Night Attack; Battalion Line of Company Columns.

but not so close that they become involved in the direct assault. The provision of guides and the designation of routes for supporting units may be necessary.

f. Plan of Illumination

(1) General.--The objective of battlefield illumination is to provide friendly forces with sufficient light to assist them in the conduct of ground operations at night. Illumination is normally used in an attack against a well-organized position where the possibility of surprise is remote. In such cases, supporting fires are not used. Illumination is normally not used in an attack against a hastily organized position where the possibility of surprise is good. The skillful use of illuminants over a

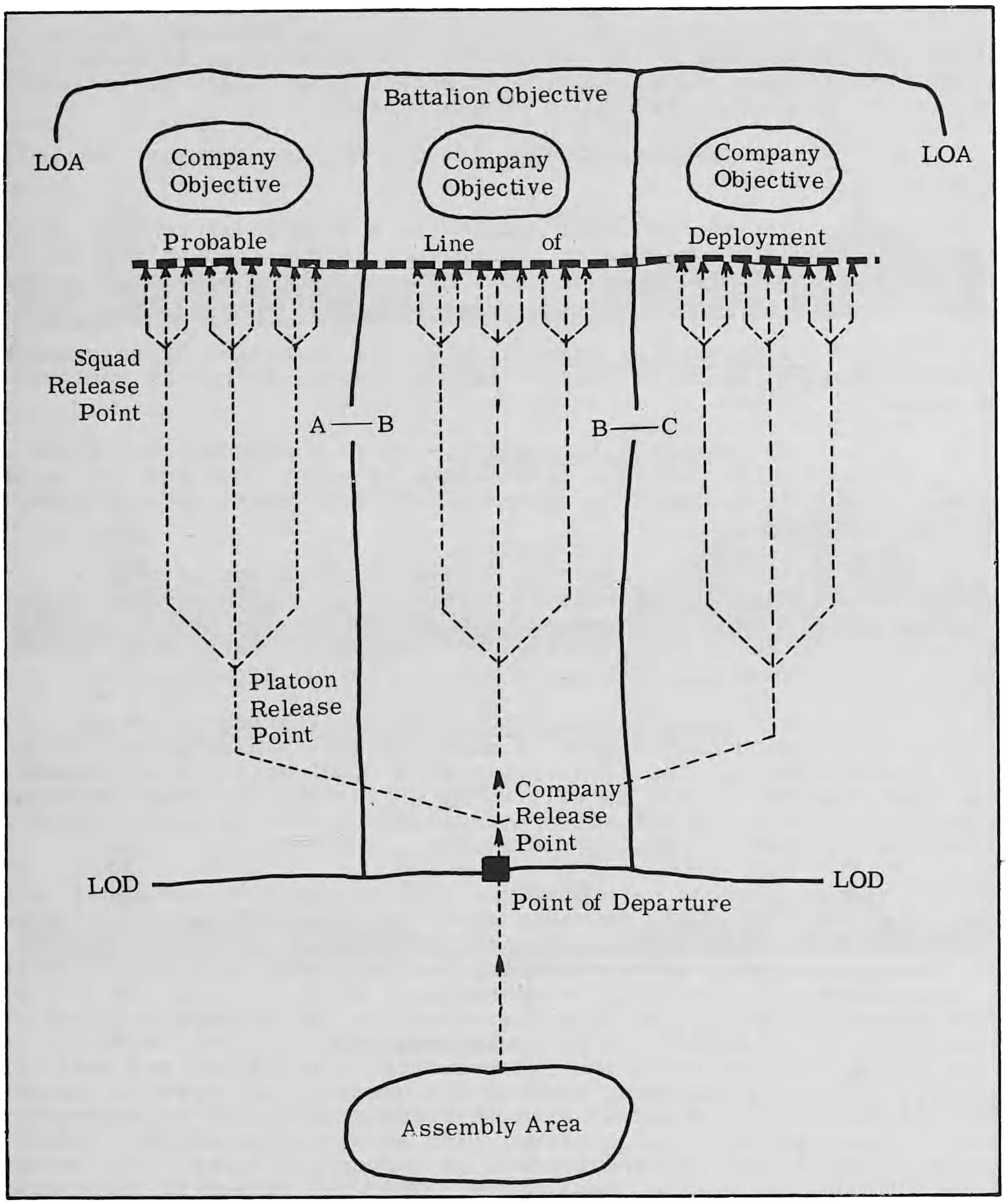


Figure 45.--Battalion Night Attack; Battalion Column of Companies.

given period of time may deceive the enemy and allow the use of illumination and still retain a certain amount of surprise. Illumination is usually employed during the reorganization and consolidation phase of the night attack, in both the illuminated and in the nonilluminated attacks.

(2) Illumination Means.--Battlefield illumination can be furnished by the employment of ground signals, artillery, illuminating grenades, trip flares, naval gunfire, aircraft flares, and searchlights. The Marine Corps employs two types of searchlights:

(a) The searchlight, 28-volt DC, 100 amperes, Xenon type, is mounted on each tank.

(b) The 30-inch, mounted on a ¼-ton, 4x4 vehicle, high-density carbon arc lamp mechanism searchlight is not presently reflected as T/E equipment; it has, however, been adopted by the U.S. Army as T/E equipment.

(3) Employment of Searchlights.--Illumination by searchlight is divided into two classes: direct and indirect. It can be employed in three ways:

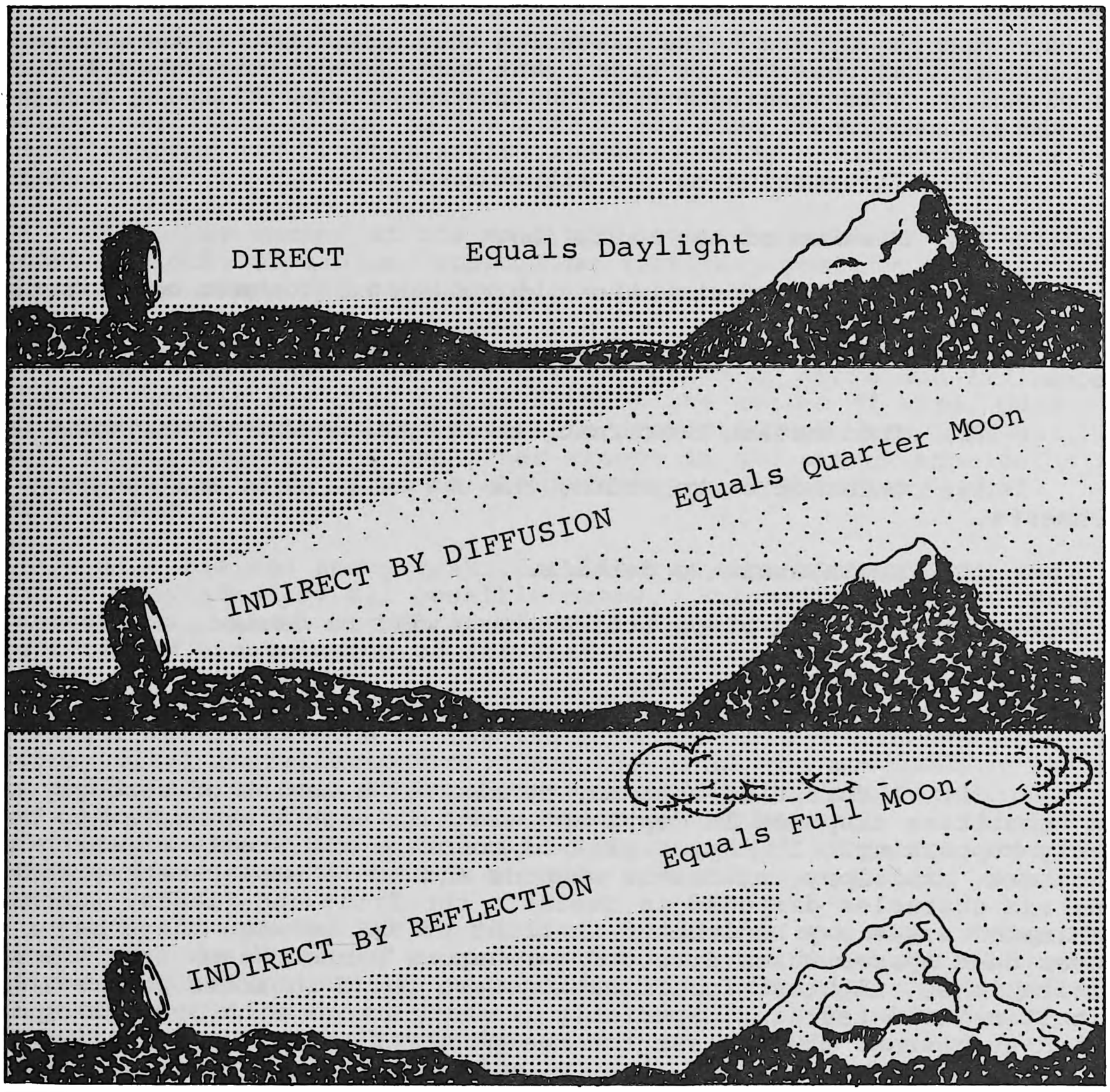
(a) Direct Illumination.--In this method, the lights occupy positions which permit a direct line of sight coverage of the objective. The light produced is approximately equivalent to the intensity of daylight.

(b) Illumination by Diffusion (Indirect Lighting).--In this method, the searchlight beam is directed at a minimum elevation above the ground which causes the area beneath and to the flanks of the beam to be illuminated by the light scattered by atmospheric particles. Illumination by this method approximates the intensity of a quarter moon.

(c) Illumination by Reflection (Indirect Lighting).--In this method, the searchlight beam is directed against low-lying clouds (125 to 1,000 meters). The area illuminated receives light by reflection of the beam from the clouds as well as by diffusion. By means of reflection from low clouds, illumination equivalent to that of light from a full moon may be obtained. (See fig. 46.)

g. Communications.--To preserve secrecy, wire or messenger communications are used during the movement from the line of departure forward until the assault is launched. Wire is laid between battalion and the assault companies by wire teams which follow the advancing columns. Wire is also laid between the security detachments at the line of probable deployment and the assault companies so that the companies can be kept informed of the situation at the probable line of deployment prior to their arrival. Alternate means, such as radio and pyrotechnics, are planned and used, if necessary. Infrared equipment such as sniperscopes and viewers (metascopes) as well as flashlights equipped with infrared filters may be used for signalling. Plans are made for a primary and an alternate means of reporting progress of the attack and the control of supporting fires. All commanders must be informed concerning these plans. When the attack is discovered, restrictions on the use of radio are lifted and full use is made of all communication means.

h. Logistic Support.--Logistic functions during darkness require additional time and may be less efficient. Plans must ensure that essential logistic support is provided. Functions of particular importance include casualty handling, resupply of ammunition and fuel, replacement of critical equipment, evacuation of prisoners, and traffic control.



ITEM	CANDLEPOWER	TYPE BEAM	MAXIMUM USABLE RANGE (METERS)
SEARCHLIGHT, 30-Inch General Purpose (Modified)	435,000,000	Variable 3^{o} to 6^{o}	10,000
SEARCHLIGHT, Xenon Type	75,000,000	1.2^{o} (Narrow) 7.0^{o} (Wide)	2,700 (White) (Infrared)

Figure 46.--Characteristics of Searchlights.

i. Warning Orders.--The battalion commander must issue warning orders as early as possible in order that subordinate commanders may commence planning. The warning order should contain the following information in the detail required:

(1) Information on the situation.

(2) Mission of the battalion.

(3) Tactical instructions which can be foreseen at this time.

(4) Amount of reconnaissance to be performed and limitations thereon.

(5) Information concerning the registration of weapons.

(6) Information regarding the use of patrols and security detachments.

(7) Administrative details.

(8) Time and place attack order will be issued.

3314. ATTACK OF A FORTIFIED AREA

a. General

(1) A fortified area may consist of a series of strongly organized localities disposed in depth and width in such a manner as to be mutually supporting. It may consist of concrete and steel, or earth and log bunkers, artillery, automatic weapons and troop emplacements, tank traps, and obstacles disposed in depth to the front and flanks. Chemically contaminated areas may be located in front of and between these major works to cover dead spaces which direct fire weapons cannot reach from the main fortifications. Lightest fortifications are found in areas possessing difficult natural terrain. Specially trained troops with special equipment may find such areas the easiest for the penetration of the fortified area.

(2) Whenever possible, fortified areas are bypassed and later reduced by siege or by attack from the rear. However, fortified areas must usually be reduced by direct attack. This penetration is followed by envelopment of the created flanks to isolate the separate parts. The width of the front of penetration is limited by the amount and types of artillery, aviation, or nuclear weapons available; the possibility of employment of armor; and the number of trained assault attachments available.

(3) The basic principles involved in the attack of a fortified area are the same as those for any other attack. The principal differences are increased special training, thorough preparations, special equipment and troops required, and comparatively narrow frontages. The frontage of an infantry battalion may be as narrow as 400 meters.

(4) Local air superiority is necessary in operations against a fortified area. The attack on hostile reserves by supporting aviation both prior to and during the attack is of material assistance in isolating the area under attack. Under certain circumstances, supporting aviation attacks

selected areas in close support of the assault. It may also supplement artillery fire on installations in the fortified area or attack hostile artillery or lines of communication. Saturation bombardment of the area of assault immediately prior to the attack may also be employed. The use of nuclear weapons may greatly assist reducing enemy resistance prior to the attack.

(5) The extent of the main and outpost positions, to include their depth, width, obstacles, supporting artillery positions, OP's, and the location and character of the emplacements and their dead spaces must be determined.

(6) The assault detachments, screened by smoke and taking advantage of terrain and dead spaces outside the angles of fire, push through and around emplacements under the protection of fire from all available supporting weapons and other troops in the attack echelon. Close coordination is required in the infantry-tank-artillery-naval gunfire-air team.

(7) Liaison among tanks, artillery, attacking troops, and aviation is maintained by all possible means. Extensive radio and wire nets, messengers, visual signal stations, and pyrotechnics are employed to ensure timely transmission of information and orders.

(8) Helicopterborne troops may be landed within and in the rear of the larger fortifications on the front of the main attack to seize, hold, and destroy vital installations or areas, to block the movement of the reserves, and to assist assault troops by attacking the fortifications from the rear. When such troops are used, their operations are coordinated with all other components of the attacking force. Special attention must be given to coordination with artillery, air, and other supporting arms.

(9) The amount of ammunition, artillery, and cooperating aviation available; the degree of surprise possible; and the depth of the fortifications on the front of the penetration will determine the length and intensity of supporting fires prior to the assault. The bombardment of the whole front by artillery and aviation continues from the beginning of the preliminary operations. At some time prior to the hour of attack, the bulk of all supporting fires, ground and air, is concentrated on fortifications on the front of the initial penetration. Supporting aviation attacks hostile reserves, artillery, and sensitive points in the fortifications which artillery does not, or cannot, reach. Artillery is concentrated on points in the fortifications which offer the greatest danger to success of the penetration. The fire of light, flat trajectory weapons is directed against lighter obstacles and embrasures in the fortifications. The use of smoke is carefully coordinated to preclude interference with supporting fires. Supporting fires on the front of the penetration are lifted on signal from the commander of the assault force. The bulk of supporting fires then shifts to the next fortifications to be reduced, or is placed to meet hostile reaction to the initial assault. Fires, including screening smoke, are maintained against fortifications not subjected to the assault.

(10) Once a breach has been effected and emplacements on the initial front reduced, additional assault detachments are sent into the gap at once. They attack the flanking works in each direction and widen the base of the penetration while the assault force deepens the penetration by advancing and attacking the next fortifications in its zone. Troops in the

rear of the assault force are pushed rapidly through the gaps created. Enemy fortifications on the flanks of the battalion may afford the enemy an opportunity to quickly organize and launch strong counterattacks. The strength of a fortified position usually will be augmented by strong field fortifications which must also be taken or destroyed. Enemy reserves frequently will be disposed in strong, covered positions for such counterattacks. Delay in attacking the flanking fortifications and reinforcing the advance of the assault force may result in a serious reverse and the loss of the assault force by hostile counterattack. Troops in the zone of the flanking works move to the support of the assault detachments as rapidly as fortifications are neutralized. Unless required by the attacker, captured enemy armament is removed or destroyed and gun emplacements demolished to prevent their recapture and use by the enemy.

(11) Based upon prearranged plans, highly mobile forces are prepared to exploit the penetration. Exploitation forces should be heavy in armor and usually will include both reserves and units disengaged from the attack. Plans and preparations are made to include motorized infantry units, if possible. Helicopters may be employed to increase the mobility of infantry units. When the fortified area has been breached throughout its depth, these forces immediately are pushed through the gap. The shoulders of the penetration are defended against hostile counterattacks. Protection is given to troops passing through the gap by troops holding the shoulders of the penetrations, by troops landed by helicopter in the rear of the fortifications, and by supporting aviation.

(12) Once through the gap, exploitation forces fan out, moving rapidly on all roads leading toward the hostile rear. Exploitation forces complete the demoralization of the enemy. Close cooperation by and coordination with aviation is mandatory. The principal targets for cooperating aviation are hostile reserves and troops attempting to block the movement of the exploitation forces. Suitable forces are assigned the mission of keeping the gap open against anticipated hostile efforts to close it.

b. Employment of the Infantry Battalion

(1) The preceding is applicable to the infantry battalion; however, in the attack of a fortified area, the battalion or smaller unit usually attacks as part of a penetrating force. The battalion in a penetration usually provides for its own flank security and prepares to repel counterattacks. A detailed plan is required for the attack of a fortified area to provide necessary preattack training, coordination and considerations as to the width of the zone of action, and plans for the reduction of individual bunkers or pillboxes.

(2) Machineguns are located, when the terrain permits, to deliver fire against embrasures. The 81mm mortars are placed so their fires may be massed to the front or flanks of the battalion. Flame weapons are employed to place direct fire into embrasures and to fire at targets of opportunity within the zone of attack. Attached tanks are placed in firing positions from which their primary armament may be used to fire into embrasures and against fortifications. The battalion commander must pay particular attention to the forward displacement of direct fire weapons and the ammunition resupply for these weapons.

(3) Direct fire weapons neutralize or destroy the permanent works by placing fires into the embrasures. Indirect fire is employed to

neutralize or destroy troops and weapons in field-type emplacements and to limit observation and mutual support. Positions for direct fire weapons should allow fire to be delivered as nearly perpendicular as possible to the walls or embrasures of bunkers. This decreases the number of ricochets, ensures maximum penetration, and makes for the greatest possible destruction or neutralization. Positions are prepared and ammunition brought up and concealed before the positions are occupied. Concealed routes to positions are selected. Positions are usually occupied under the concealment of darkness, smoke, fog, cover of indirect fires, or any combination of these conditions. Every precaution is taken to prevent direct fire weapons from being discovered by the defender. When conditions permit, at least two direct fire weapons should fire on each embrasure. The defender must be denied the use of the embrasures to prevent him from holding up the advance of the attacking troops. Bunkers sited for flanking fire or fire to the rear have no embrasures into which the attacker can place his fire. These bunkers are targets for heavy weapons, since maximum results can be obtained only by perforating the bunker. Each direct fire weapon is initially given a specific mission in support of a particular subordinate unit. Alternate means of communication are employed to ensure that fire from direct fire weapons can be lifted or shifted when necessary. Direct fire is lifted or shifted from each bunker as soon as the attacking units are ready to assault. Other neutralization fires are maintained. Direct fire weapons are displaced forward as required.

(4) Control at best is difficult because of the extreme noise and confusion during the attack of a fortified area. Precombat training of the assault elements facilitates control and adds to the confidence of the unit. Before the attack, the attacking companies, or at least the attacking platoons, rehearse the attack. All available control measures are practiced at this time. Detailed organization and planning takes place to reduce the risk of poor control and coordination. The presence of smoke of battle, rain, falling snow, fog, or darkness is considered in making plans for control.

c. Use of Nuclear Weapons.--Listed below are some of the more important considerations in the employment of nuclear weapons:

(1) Type of Burst.--Normally, the best type of burst to be employed against fortified areas, particularly those consisting of steel and concrete works, will be a surface burst. An airburst may be employed when the situation and plan of maneuver so dictates. Residual radiation and ground shock increases in intensity as the elevation of the burst is decreased; the ground shock created by a surface or subsurface burst will destroy fortifications and create gaps. By the same token, it may become necessary to utilize helicopters to avoid areas containing residual radiation.

(2) Advantage of the Defender.--Since the strength and protection provided by the defensive position generally requires the attacker to mass his forces in order to penetrate the position, the attack formations offer remunerative targets. The employment of a nuclear weapon to achieve an initial penetration is weighed against the risk of damage to our own forces. A withdrawal from a forward position invites the enemy to advance and force combat while friendly forces are off balance, or to employ his own nuclear weapon while enjoying the protection of his position.

(3) Size Weapon Employed.--The closer the burst to our own troops, the smaller the yield of the weapon should be. Larger weapons may be used against the enemy's rear with an attendant destructive effect on his own forward positions; therefore, it may be advisable to use the larger type weapon since the rupture of the enemy's forward defenses may be accomplished at the same time his rear area and reserves are being softened up for future operations. Where practicable, small and large yield weapons may be employed together to create a gap of greater depth.

(4) Modifications to Techniques Governing Attack of a Fortified Position.--Planned employment of nuclear weapons may preclude the necessity of battalions occupying forward positions until the very last moment. The reduction of fortifications step by step may be modified to an extent that permits rapid seizure of a final objective in the enemy's rear by capitalizing upon the shock and destruction of well-placed weapons on forward fortifications. Mutual support and contact between attacking forces will be secondary to the ability of the individual commanders to take quick, decisive action. A lesser need may exist for the attachment of additional direct fire weapons because the destructive effect of the nuclear weapon can, in itself, decrease the need for direct fire support by rendering enemy personnel, bunkers, and other fortifications ineffective. Fire support from conventional weapons must still be planned and executed as necessary.

3315. ATTACK OF A BUILT-UP AREA

The attack of a built-up area assumes specialized characteristics not normally associated with the conventional attack. Such an attack requires semi-independent actions of small units and extremely detailed planning to offset the difficulties imposed by the nature of the operational environment. FMFM 6-4, Marine Rifle Company/Platoon, contains a discussion of rifle company and platoon considerations in planning and conducting the attack of a built-up area. FMFM 6-5, Marine Rifle Squad, describes the techniques of house-to-house fighting employed by searching and covering parties.

a. Definitions.--Certain general definitions are basic to a discussion of combat in built-up areas.

(1) Built-Up Areas.--A built-up area is any group of buildings designed for habitation or for commercial purposes such as a village, town, or city. A built-up area may become a battle area because its location controls routes of movement or because it contains valuable industrial or political installations.

(2) Block-Type Construction.--Block-type construction is that type construction in which few or no gaps exist between buildings such as in business districts of large towns or cities.

(3) Detached or Semidetached Building Areas.--Detached or semidetached building areas are areas of towns and cities in which the buildings are spaced relatively close together as in residential areas with a high density of individual and duplex buildings.

(4) Isolated Housing Areas.--Isolated housing areas include villages, hamlets, surburban houses, or other small clusters of buildings which are surrounded by large, open areas.

(5) Critical Areas.--Critical areas are locations within a built-up area that may require special coordination to overcome. Open areas between buildings, superhighways, wide streets, railroads, and other terrain features which provide the enemy an advantage in observation and fire may become critical areas. Buildings bordering these terrain features are included in the critical areas.

(6) Key Building.--A key building is a structure which contains an important governmental agency or public utility or is one of distinct cultural, political, or historical value. City halls, telephone exchanges, telegraph offices, waterworks, transportation facilities, hospitals, museums, and cathedrals are examples of key buildings. Plans for seizure of such structures provide for minimum damage to the facilities housed therein.

b. Tactical Considerations.--The general construction of a built-up area imposes tactical considerations of a specialized nature on both the attacker and defender. These are discussed below primarily as they affect the attacker.

(1) Control.--Buildings in a built-up area interfere with radio communications. Wire and messengers are frequently the only reliable means. Because of restrictions on communications and observation, control is difficult and is decentralized. Initiative of small unit leaders assumes added importance.

(2) Military Aspects of Terrain.--The military aspects of the terrain hinge upon unusual characteristics which are unique to built-up areas.

(a) Observation and Fields of Fire.--Observation and fields of fire are restricted to the narrow lanes provided by streets and alleys. Observation is further restricted by the use of smoke or by the dust and smoke created during the fighting; therefore, it may be necessary to seize some of the taller buildings for use as observation posts. The rubble and debris resulting from destruction of buildings severely restricts existing fields of fire.

(b) Cover and Concealment.--Built-up areas offer excellent cover and concealment for both the attacker and the defender. The defender has an important advantage in that the attacker must expose himself to move through the area. The effectiveness of the cover depends upon the density of the buildings and the nature of their construction. Buildings with basements or two or more stories offer good overhead cover from supporting arms fire.

(c) Obstacles.--Buildings set close together in geometric patterns present obstacles to both troops and vehicles. Streets, particularly in block-type construction areas, are relatively easy to barricade and cover by fire. Rubble created by air, naval gunfire, artillery, and direct fire weapons may constitute obstacles to the progress of the attack.

(d) Key Terrain.--Key terrain in built-up areas includes strongly constructed buildings or groups of buildings which cover good avenues of approach, bridges, and hubs of underground sewerage and subway systems.

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(e) Avenues of Approach.--The best avenue of approach in terms of cover and concealment is often through existing buildings. Streets, alleys, and underground sewerage and subway systems constitute avenues of approach which invite movement, but are readymade fire lanes and killing zones for enemy direct fire weapons. Vehicle movement is restricted to streets and alleys where they are subject to ambush.

(3) Fire Support.--Poor observation with its resulting limitations on adjustment of fire and the proximity of friendly and enemy forces in contact renders indirect fire support difficult. Direct fire weapons normally provide the bulk of the close fire support during the attack. The attacker must use supporting weapons carefully and consider the possibility of creating obstacles to his own advance or hindering the maneuver of higher or adjacent units.

(4) Security.--Basements, underground passages, and upper floors create a requirement for security above and below as well as to the front, flanks, and rear.

(5) Night Operations.--Under cover of darkness, streets can be crossed more safely and small patrols can infiltrate between defended areas or defended buildings. These patrols may perform reconnaissance missions or conduct combat operations to eliminate enemy positions. Large-scale night operations are avoided. Small local night attacks may position units for daylight operations, secure buildings or areas required for continued daylight operations, or eliminate enemy strongpoints.

c. Phases of Attack

(1) The attack of a built-up area is divided into three phases:

(a) Phase I.--Phase I is designed to isolate the built-up area by seizing terrain features which dominate the approaches. Because enemy defenses or terrain obstacles may prevent complete isolation, the attacker must secure positions outside the built-up area from which he can support entry into it and its step-by-step seizure. This phase of the attack is planned and conducted in a manner similar to other attacks.

(b) Phase II.--Phase II consists of the advance to the edge of the built-up area and the seizure of a foothold. Normally, this foothold consists of the seizure of buildings on its near edge which deny the enemy observation and direct fire on the attacker's approaches to the town. The planning and conduct of this phase are much the same as for attacks of strong defensive positions and may assume many of the characteristics of an attack against a fortified area.

(c) Phase III.--Phase III consists of the advance through the built-up area to clear it of enemy. During this phase, the attack assumes its more specialized characteristics. It ends when the entire built-up area is cleared.

(2) Phase I may be accomplished concurrently with phases II and III by large forces. There is no discernible pause following completion of phase II before phase III is initiated. The planning and conduct of phases I and II are similar to other attacks. The majority of the discussion that follows is devoted to phase III, clearance of the built-up area.

d. Planning

(1) General.--Plans for the attack of a well-defended built-up area are based upon a detailed study of the city as well as the enemy dispositions in and around it. As in any other ground attack, the plan of attack provides for a scheme of maneuver and a plan of fire support.

(a) In the attack of a large built-up area, one or more regiments may be in the attacking echelon. In this case, a battalion may be assigned the mission of isolating the objective, seizing a foothold, or clearing all or a portion of the built-up area. In the attack of a large built-up area, the battalion normally participates in only one phase at a time.

(b) The battalion may undertake the seizure of a small built-up area independently. Such an operation requires the continuous isolation of the town while clearing it.

(c) Suitably reinforced rifle companies may be assigned missions involving the semi-independent attack of isolated housing areas.

(d) Attack planning parallels the three phases of the attack and involves the formulation of plans for:

1 Isolating the city.

2 Gaining a foothold.

3 Systematically reducing and seizing control of the area.

(2) Control Measures.--Control is difficult in the attack of a built-up area as communications and observation are inhibited. Control measures prescribed in the attack order are more restrictive than those for other types of attack.

(a) Objectives.--Objectives are relatively shallow. When an objective extends to a street, only the near side of the street is included. The final objective is normally the far edge of the built-up area. Key buildings or groups of buildings may be assigned as intermediate objectives. Numbering the buildings facilitates the assignment of objectives and simplifies reports of their seizure. It is necessary to enter and search each building. Bypassing buildings invites attack from the rear.

(b) Phase Lines.--Control is enhanced by regulating the advance. Phase lines may be used in lieu of intermediate objectives. Principle streets, rivers, trolley lines, and railroads are appropriate for use as phase lines.

(c) Zones of Action.--Zones of action are employed but with the stipulation in the mission that they be cleared. The clearing mission restricts the freedom of action normally associated with the zone of action.

(d) Boundaries.--Care must be exercised in the assignment of boundaries between units. In areas of detached and semidetached construction, every effort should be made to establish boundaries in alleys or within blocks so that both sides of a street are included in one unit's

zone. In the denser block-type construction, boundaries are placed along one side of the street with the street inclusive to one unit.

(e) Checkpoints and Contact Points.--Street corners, buildings, railway crossings, bridges, or other easily identifiable features may be designated as checkpoints or contact points. Checkpoints are assigned to facilitate reporting locations. Contact points specify locations at which the commander desires units to make physical contact. Both are extensively used in the attack of built-up areas to alleviate control difficulties.

(3) Formations.--The battalion attack formation depends upon the width and depth of the zone to be cleared, the character of the area, the anticipated enemy resistance, and the formation adopted by the next higher echelon. Rarely will the formation of the battalion provide for less than two companies in the attacking echelon. Battalion formations are more compact in the attack of built-up areas because zones of action are normally narrow, and restricted routes of movement require that reserve elements follow the attacking echelons more closely than in other attacks to ensure their timely availability.

(4) Frontages.--The frontages assigned depend upon the resistance anticipated, size of buildings, and the type construction of the area. The mission requirement to clear the zone of action and the requirement for subordinate units to retain reserves exert considerable influence on the assignment of frontages. Frontages assigned to a unit must be commensurate with its capabilities. As a guide, the frontage commonly assigned to a rifle company in the attack of a built-up area is as follows:

(a) In isolated housing areas, frontages are the same as for other offensive operations.

(b) In areas of detached and semidetached construction, a company frontage consists of two streets including the buildings on both streets.

(c) In block-type construction, the zone of action is normally one block wide, inclusive of the street on one flank and exclusive of the street on the other.

(5) Main and Supporting Attacks.--In built-up areas, the main attack is directed toward the capture of a critical area. When the terrain or characteristics of the area offer equal advantages to attacking units, or when enemy forces opposing the attacking echelons are of uniform strength and defensive capabilities, a main attack is not normally predetermined. The attack is weighted during its conduct as an element achieves marked success or develops an advantage.

(6) Battalion Reserve.--In general, reserves are employed for much the same purposes and are assigned missions similar to those of other attacks. The following special considerations are of interest in the positioning and commitment of the battalion reserve:

(a) Restricted routes of movement require it to be positioned somewhat closer to the attacking companies than normal and may increase the time required for the reserve's commitment to action.

(b) Concealment and cover in a built-up area favor positioning the reserve closely behind the attacking companies.

(c) Since few gaps exist between adjacent attacking units, commitment of the reserve to the attack usually involves a passage of lines or a relief in place.

(7) Fire Support.--Fire support planning is similar to planning for the daylight attack but relies more extensively on the use of direct fire in close support of the attack. The effectiveness of indirect fire weapons is limited by restricted observation, proximity of enemy and friendly forces, availability of overhead cover for enemy positions, and a requirement for pinpoint accuracy. Indirect fire is effective in route interdiction and restricting movement within and to the rear of the enemy position.

e. Conduct of the Attack.--The clearance of a built-up area may be either a systematic, block-by-block, house-to-house reduction process or a rapid advance through the town with clearance of specific critical areas and key buildings.

(1) When the area is large and heavily fortified, or when the battalion mission requires a complete clearance of enemy forces, the methodical clearance operation is performed.

(2) If the built-up area is small or lightly defended, the attacking force drives through or into the town as rapidly as possible to seize key terrain or buildings and to dominate routes of ingress into the town.

(3) In a strongly defended area, the leading elements of the battalion mop up as they advance. In a lightly defended area, it may be desirable for the attacking companies to push forward rapidly to seize critical areas. Bypassed areas and structures are cleared by reserve units assigned specific mopping-up missions.

3316. INFILTRATION

a. General

(1) Tactical infiltration, a technique of accomplishing the penetration, may be used by the battalion in the offense. In the infiltration, the attacking force moves by stealth through the enemy defensive position without rupturing the position. Engagement with enemy forces in their forward defensive positions is avoided. Infiltration may be accomplished by dismounted units, helicopterborne units, and exceptionally, by motorized or mechanized units.

(2) The purpose of infiltration is to deploy strong forces in the enemy rear for decisive tasks while exposing only small forces to enemy fire during the passage through the enemy defenses. Normally, infiltrating forces will remain dispersed and concealed in the enemy's rear until concentration at a prearranged time and place is required for accomplishment of their mission. Main or supporting attacks by infiltration may be conducted by elements of the battalion or the entire battalion may conduct an infiltration as part of an attack by a larger force.

(3) Because of the dispersion and intermingling characteristics of infiltration operations, use of this technique will considerably reduce the enemy's ability to employ nuclear weapons against an attacking force.

b. Planning an Infiltration.--Although planning techniques follow those of other offensive operations, certain areas require additional emphasis in planning an infiltration.

(1) Objectives selected may be key terrain features in the enemy rear area which will restrict movement of his reserves or isolate his defensive positions. Objectives selected may also be reserves; fire support means; or command, control, or logistic installations. The battalion commander may also employ small infiltrating groups on intelligence or target acquisition missions.

(2) Attack positions and rallying points or areas are selected to assist in controlling the attack. Such areas are reconnoitered by ground or air prior to the attack to ensure that they are free of enemy activity. Infiltration lanes are designated to permit infiltrating groups to move by stealth to attack positions. In selecting infiltration lanes, the battalion commander chooses areas in which gaps are known to exist in enemy defenses. Frequently, lanes are found in the less desirable terrain such as swamps and heavily wooded areas. When air infiltration is used, the flight routes are chosen where enemy forces are least likely to be located.

(3) The time of infiltration is selected so as to take advantage of conditions of reduced visibility. Desirably, darkness, rain, snow, fog, or other conditions are used to facilitate the movement through the enemy lines. The time of attack on the infiltration objective is selected so as to best support the battalion plan of attack.

(4) Fire support is planned to support the passage through enemy positions, if required, and the attack on the infiltration objective. Since units are normally limited to hand-carried weapons, additional fire support is usually required.

(5) Coordination of the planned infiltration is effected with all appropriate agencies including higher, lower, and adjacent units; fire support agencies; air elements; and the linkup force. Unity of command normally dictates that, at the time of linkup, control of the infiltrating unit pass to the linkup force.

c. Conduct of the Infiltration

(1) Infiltrating units move in small groups through or over enemy defensive positions, using stealth and dispersion to escape detection. If possible, multiple lanes are used for passage through the enemy position. If units are detected, they avoid engagement by withdrawing or moving around resistance. If enemy forces are discovered in an infiltration lane, the infiltrating unit reports their location to the appropriate headquarters and the lane is closed for infiltrating until it is cleared. Groups which lose direction or are unable to reach the attack position proceed to designated areas and take appropriate action as required by the plan. Such groups may be assigned a contingency mission; e.g., target acquisition, or they may return to friendly lines by foot or be picked up by helicopters.

(2) After units assemble in attack positions, they complete preparations for the attack. At the designated time, the infiltrating force attacks to accomplish its mission. Subsequently, linkup or exfiltration is accomplished. If linkup is planned, recognition signals, both visual and sound, are used to prevent fire fights between friendly elements.

(3) In the event that linkup is delayed, it may be necessary to resupply the infiltration force, to evacuate it, or to order exfiltration. Contingency plans should be prepared for such action.

3317. ATTACK TO ASSIST AN ENCIRCLED FORCE

a. General.--Whenever troops are surrounded, assistance from outside the encirclement is desirable and should be provided without delay. The urgency of the need for relief depends on the tactical situation and the physical condition of the encircled force. It is usually desirable to combine the attack of a relief force with the breakout attack by the encircled force.

b. Planning.--Tactical preparations follow the same principles as those for any other type of attack. The strength needed by the relief force is influenced by the enemy situation and the distance to the objective. In most cases, armor and artillery support is necessary. Plannning should provide for the possible use of helicopters to perform such missions as communications, resupply of the encircled force, evacuation of wounded and other personnel, fire support, liaison, reconnaissance, surveillance, transporting the relief force, and evacuating both forces. All relief forces should be under one command. Logistical requirements will exceed those for the needs of the encircled troops. The time and place for launching the relief attack are chosen in coordination with the encircled force. Coordination can usually be carried out only by radio; therefore, great care must be taken to maintain secrecy. Aircraft are used for liaison whenever possible.

c. Conduct.--If practicable, the relief attack should be launched on a broad front. Its conduct must be marked by a high degree of flexibility. The joint effort of the two converging elements--relief force and encircled force--is carefully coordinated and geared to the needs of the encircled unit which will be fighting under less favorable circumstances than the relief force. Depending on the relative size of the two forces, it may be desirable to give overall command of both to the commander of the larger force when linkup is imminent. The linkup is planned and executed similar to that discussed in paragraph 3311.

3318. BREAKOUT FROM ENCIRCLEMENT

a. General

(1) A unit is encircled when it is surrounded by an enemy force which has cut all ground routes of evacuation and reinforcement. In a fluid situation when forces are widely dispersed, the battalion may become encircled. Circumstances may require the battalion to continue the battle even though encircled. Commanders plan to combat encirclement, but may have to accept encirclement in accomplishing their mission. When the mission requires, the battalion breaks out of the encirclement either alone or with the assistance of a linkup force. When appropriate, an encircled battalion may be withdrawn by helicopters.

(2) Unity of command for an encircled force is a basic requirement. Enemy attacks are normally directed against located, tactically weak areas in the defender's position; therefore, when encircled forces consist of two or more units, unified command is established early and the defense coordinated.

(3) A high standard of discipline is essential. The commander of an encircled force applies stern measures to ensure control of the force under his command. Force of character, as in any critical situation, acquires great significance in sustaining the will to fight and may determine the outcome of the battle. The commander should always be enthusiastic and confident since the minds of his troops will register his every action and mood.

b. Preparation and Planning for the Breakout

(1) A breakout from encirclement can be one of the most difficult operations that a force may experience. Unless the encircled force has explicit orders to defend in place or is so weak that it must rely on relief from the outside, the decision is made to break out and the operation is executed before the enemy is able to establish an organized containment. The need for making a quick decision, however, should not lead the commander to execute a breakout without adequate planning.

(2) Timely intelligence is required for development of a sound breakout plan. The plan should include the following:

(a) Area for the Attack.--The attack should be launched against enemy weakness in a direction which will ensure linkup with friendly forces in the shortest possible time. The direction may be indicated by designating objectives and an axis of advance. Objectives are assigned to ensure penetration of the encircling force and preservation of the gap created.

(b) Time of Attack.--Since deception and secrecy are essential to a successful breakout, the commander may decide to attack during darkness or other periods of limited visibility. The effectiveness of enemy and friendly air is considered in selecting the time for the breakout. When the enemy can gain and maintain local air superiority, it may be necessary to break out at night or during weather which reduces the effectiveness of enemy air support. On the other hand, if friendly air can gain and maintain local air superiority, it may be desirable to conduct the operation when visibility is good. A daylight breakout may also be feasible when smoke can be used to hinder enemy observation.

(c) Organization of the Breakout.--An encircled force is usually organized into four distinct tactical groups for the breakout: breakthrough force, supporting units, reserve, and detachments left in contact.

1 The breakthrough force may vary in size from one-third to two-thirds of the total encircled force. This force is assigned the mission of penetrating the enemy encircling position, widening the gap, and holding the shoulders of the gap until all other encircled forces can move through. After the penetration has been completed and all other encircled forces have passed through the penetrated area, the breakthrough force is employed as a rear guard.

2 Supporting units such as artillery and logistic units displace on order.

3 The reserve may be assigned the mission of assisting the breakthrough or of executing counterattacks or diversionary attacks. This force is usually employed to maintain the momentum of the attack once the penetration has been made. When freedom of action is gained, this force may become the advance guard for further movement.

4 The detachments left in contact should be the minimum necessary to cover the withdrawal of other forces from the perimeter. The detachments withdraw on order after all other units have cleared the perimeter. After passing through the penetrated area, they are assigned a reserve mission.

(d) Deception.--An effective deception plan is required for a successful breakout. The primary purpose of the deception is to enable the main breakthrough force to gain surprise. Effective deception may be achieved by employing feints, diversionary attacks, or demonstrations. These deceptive measures are designed to deceive the enemy as to the location of the main attack. Self-propelled weapons and tanks are ideally suited for these operations. After the bulk of the enemy force has been diverted, self-propelled weapons and tanks can move rapidly to support the main attack.

(e) Concentration of Forces.--Prior to the breakout, there must be a gradual change of emphasis from the defense of the perimeter to the formation of a strong breakout force. As the situation permits, every Marine and combat unit that can be spared from the perimeter is to be assembled for employment in the breakout.

(f) Communication.--Since secrecy is essential to the success of this type of operation, wire and radio communications are closely guarded. No mention of the breakout operations should be transmitted in clear text over either of these means of communication. The normal pattern of radio traffic should be maintained until the breakthrough force has started its attack.

(g) Logistics

1 Plans should be made to relieve personnel of all equipment and supplies not essential for the fighting during the breakout. Weapons that cannot be manned or supplied with ammunition are destroyed. Similar considerations are applicable to vehicles. The number of vehicles accompanying the breakout depends on the availability of fuel and the requirements for transportation of casualties and indispensable equipment.

2 If the force does not have adequate supplies to support the breakout, plans are made for air resupply of critical items.

3 One of the major logistic problems is the evacuating of casualties. Helicopters and other aircraft (if applicable) are used to the maximum for this purpose. The consideration given to casualties has a profound effect upon the morale of encircled troops.

c. Conduct of the Breakout

(1) Since secrecy and security are primary considerations in conducting a breakout operation, a sequence of events for the operation is developed and disseminated to participating units. Elements on the perimeter which are to participate in the breakout as a part of the main breakthrough force or as a part of the reserve are released from their defensive mission and assembled with their respective tactical groups at the latest practicable time before the breakout attack starts.

(2) A diversionary attack should be carefully planned and vigorously executed to divert the enemy from the breakout area. In the diversionary attack, the deceptive measures taken, the assault power and supporting fires used, and the vigor with which the attack is executed must convince the enemy that it is a genuine attempt to break out.

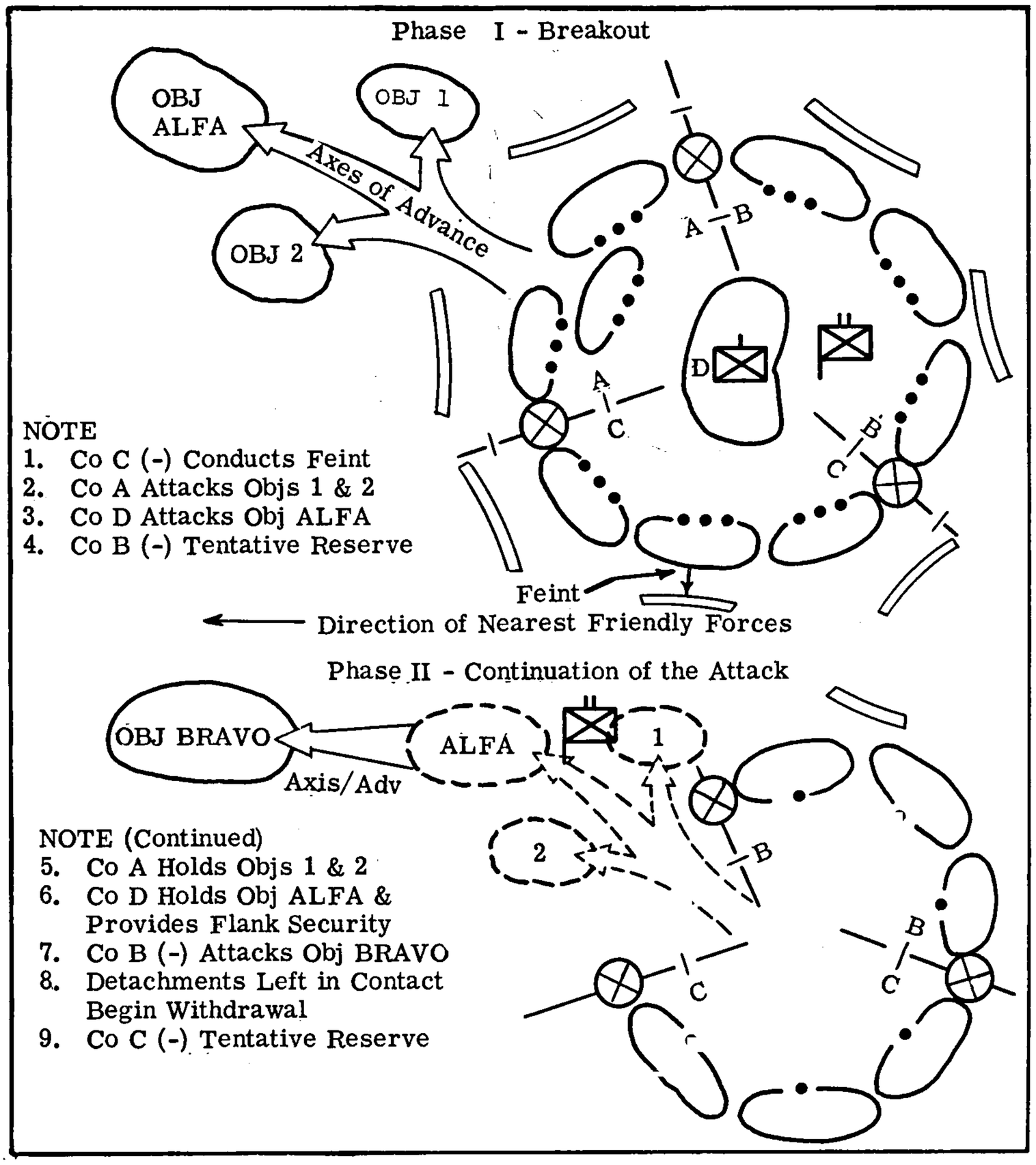

Figure 47.--Breakout From Encirclement.

(3) The main attack crosses the LOD as soon as the diversionary attack has diverted the bulk of the enemy force. The breakthrough force, supported by all available fire and close air support, makes a penetration, widens the gap, and holds the shoulders of the penetration. The reserve force then passes through the gap and continues the attack. Supporting units displace on order to provide close, continuous support to the attack echelon. The detachments left in contact withdraw on order and follow the reserve force through the gap. When all encircled forces have passed through the gap, the breakthrough force withdraws, prepared to fight a rear guard action. Once outside the encircled area, the attack is continued to effect linkup with other friendly units. Then the breakout force assumes a formation which ensures maximum speed of movement and security to the front, flanks, and rear. (See fig. 47.)

Section IV. DEFENSIVE OPERATIONS

3401. GENERAL

a. The defense is the employment of all means and methods available to prevent, resist, or destroy an enemy attack. It is a posture assumed by a force for the purpose of protection against enemy attack.

b. The mission is the paramount factor that dictates the type of defense to be used and the position or area to be defended. However, considerations such as the composition of opposing forces, terrain, and security may favor a different type or location of defense.

c. The Marine infantry battalion in the amphibious assault and subsequent tactical operations ashore will be required to assume a defensive attitude either on order of higher authority or when forced by the enemy to defend. When a unit ceases to move for any period of time, for any reason, it is in fact assuming a defensive posture. The assumption of a defensive posture may be for one or more of the following purposes:

(1) To gain time pending the development of more favorable conditions for undertaking the offense.

(2) To deny entrance of the enemy into an area.

(3) To economize forces in one area in order to concentrate superior forces for decisive offensive action elsewhere.

(4) To reduce enemy capability with minimum losses to friendly forces.

(5) To trap and destroy hostile forces.

(6) To permit the employment of nuclear weapons.

(7) To ensure the integrity of an objective.

d. This section covers the concepts and techniques employed in the conduct of defensive operations at the battalion level.

3402. CONCEPT OF DEFENSE

In the defense, the defender takes every opportunity to seize the initiative and to destroy the enemy. The defender seizes the initiative by:

a. Selecting the battle area.

b. Forcing the enemy to react in conformity with the defensive plan.

c. Exploiting enemy weaknesses and errors by offensive operations.

d. Counterattacking enemy successes.

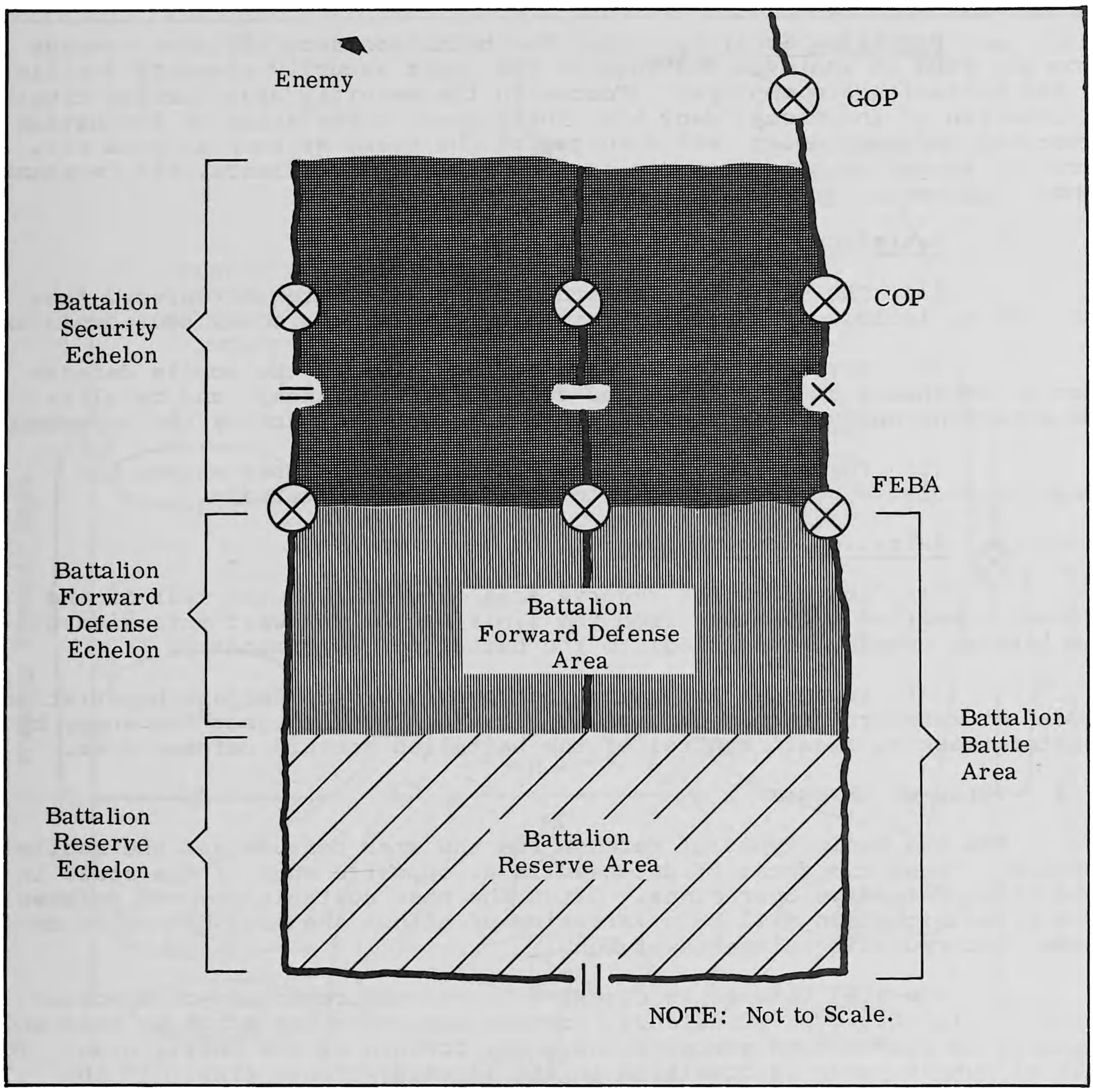

Figure 48.--Battalion Defensive Echelons (Schematic).

3403. DEFENSIVE ECHELONS

Defensive echelons include the security area, the forward defense area, and the reserve area. (See fig. 48.) The battalion battle area is that defensive area organized by a single forward committed battalion and extends from the forward edge of the battle area (FEBA) rearward to the battalion rear boundary or to the limit of the rearward extension of the lateral battalion boundary. Throughout the section, when reference is made to the battle area, it is construed to mean battalion battle area unless otherwise indicated.

a. Battalion Security Area.--The battalion security area extends from the FEBA to whatever distance to the front security elements available to the battalion are employed. Forces in the security area furnish timely information of the enemy; deny him close ground observation of the battle area; and deceive, delay, and disorganize the enemy as much as possible. Security forces in this area may include aerial surveillance, the regimental combat outpost, patrols, and local security elements.

b. Battalion Forward Defense Area

(1) The battalion forward defense area extends rearward from the FEBA to include that area organized by the forward committed companies.

(2) Forces in the forward defense area in the mobile defense warn of impending attack, delay and disorganize the enemy, and canalize the attacking enemy into areas suitable for counterattack by the reserve.

(3) Forward defense forces in the area defense engage the enemy in decisive combat in order to retain specific terrain.

c. Battalion Reserve Area

(1) The battalion reserve area extends from the rear of the forward committed companies (from the limit of the rearward extension of the lateral company boundaries) to the battalion rear boundary.

(2) Forces in the battalion reserve area eliminate penetrations, block, or reinforce threatened areas. They destroy or eject the enemy by counterattack to regain control of the battalion forward defense area.

3404. TYPES OF DEFENSE

The two basic types of defense are the area defense and the mobile defense. These two forms of defense lie at opposite ends of the scale in conducting defensive operations. Often the most suitable form of defense in a given situation will be a variation of either the area or mobile defense, incorporating elements of both.

a. The area defense is oriented toward the retention of specific terrain. In this type of defense, forward positions are strongly held and emphasis is placed upon stopping the enemy forward of the battle area. The bulk of combat power is committed in the forward defense area. If the enemy penetrates the area, he is destroyed or ejected by counterattack with the principal objective of regaining control of the forward defense area.

b. The mobile defense is normally conducted by division and higher echelons. It is based upon skillful use of maneuver and fires to destroy the enemy. Minimum combat power is employed in the forward defense area to warn of impending attack, delay and disorganize the enemy, and to canalize the attacking forces into areas suitable for counterattack by the reserve. The bulk of combat power is retained in a strong mobile reserve positioned for offensive action, with the principal objective of destroying the enemy.

c. The battalion does not have the capability of conducting a mobile defense; however, it may participate as part of a larger force conducting such a defense. In such an operation, the battalion may be employed as part or all of the security forces, as part of the forward defense forces,

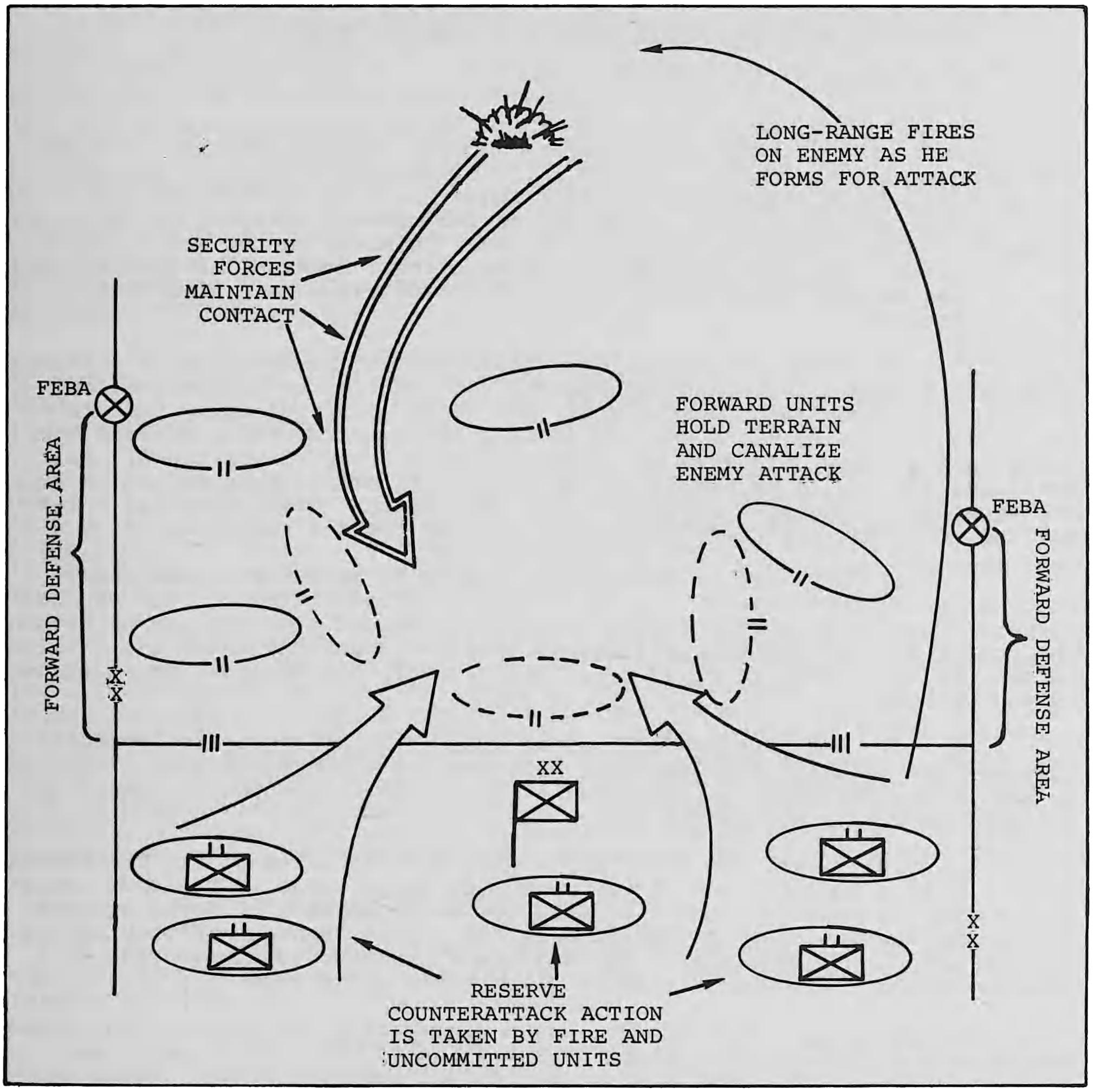

Figure 49.--Division in the Mobile Defense.

or as a part of the reserve. When a battalion is employed in the FEBA, it may accomplish its mission by conducting a delaying action, an area defense, or some variation thereof. The exact method to be employed is established by some higher commander who informs the battalion of the mission he desires accomplished and the concept for the conduct of the mobile defense. (See fig. 49.)

3405. IMPACT OF NUCLEAR, BIOLOGICAL, AND CHEMICAL WEAPONS

a. Nuclear

(1) The use of nuclear weapons has as profound an effect in the defense as in the attack. Their large radius of effects may make compact defensive positions costly. Therefore, the presence of nuclear weapons may dictate a more dispersed type of defense: either an extended area defense or a mobile defense, depending on the mission assigned by the higher commander. These extended positions present problems in the surveillance and control of the large intervals between units. However, nuclear weapons can be used to deny large areas to the enemy and cause heavy casualties when he attacks.

(2) Enemy employment of nuclear weapons causes passive defensive measures to assume increased importance. In addition to dispersion, the use of barriers, camouflage, concealment, and construction of dummy positions has value in slowing the enemy and leading him into expending nuclear weapons or using other offensive measures against unoccupied positions. All positions are dug in as deeply as the terrain permits. Underground shelters are constructed whenever possible. All emplacements should provide, as a minimum, overhead cover for protection against thermal radiation.

(3) Emphasis in planning is placed on maneuvering the enemy into making a concentration that will make a nuclear target. This may be forward of the defensive position as in the extended area defense or within the position as in the mobile defense. Nuclear countermeasures are utilized before the enemy gets so close to friendly units that they are jeopardized by the weapons.

(4) The presence and use of nuclear weapons greatly increases the need for mobility of reserves. Reserves are prepared to move quickly by any means, including helicopters, to critical areas which the enemy may attack following a nuclear strike.

b. Biological.--An enemy may employ biological weapons. The capability of causing attrition of manpower over large areas is the most important factor in considering the effects of his employment of these weapons. Biological agents cannot be detected by the unaided senses and they do not produce immediate casualties. Detection and positive identification will usually require appreciable time and laboratory techniques.

c. Chemical.--Riot control and nonincapacitating chemical munitions may be used effectively in actual organization of the ground and in defensive fires against troop concentrations and assembly areas. Flame landmines and emplaced flame weapons are especially effective against assaulting enemy infantry. Smoke may be employed to neutralize enemy observation and to create confusion in assault formations of enemy infantry and armor. (See FMFM 11-3B, Employment of Chemical Agents (U).)

3406. FUNDAMENTALS OF DEFENSE

The battalion commander plans, organizes, and conducts defensive operations by applying the following fundamentals whenever possible:

a. Proper Utilization of Terrain.--A battalion in defense takes maximum advantage of military aspects of the terrain so that the enemy

is forced to attack organized positions or make a time-consuming maneuver to avoid them. In organizing the defense area, the battalion commander gives primary consideration to those terrain features which must be held or controlled to accomplish his mission.

(1) Key Terrain.--Dominating terrain features are important, but the battalion commander should not be rigidly bound always to seize or hold high ground. He may position his companies on terrain adjacent to, or forward of, or in the rear of dominant features, taking advantage of cover and concealment. When nuclear fires are available, he may be able to defend key terrain with comparatively small forces, or he may be able to relinquish it temporarily without seriously jeopardizing the accomplishment of the mission.

(2) Cover and Concealment.--Concealment is especially important in modern warfare since it makes target acquisition more difficult for the enemy. The battalion supplements natural cover with field fortifications to develop the strongest possible defensive position.

(3) Obstacles.--Natural and artificial obstacles are used in organizing the battalion defense so the battalion may cover all avenues of approach economically and effectively. Obstacles assist in canalizing enemy troop movements. To be effective, they must be covered by fire. If the enemy seeks to bypass them or if he concentrates forces to overcome them, he may increase his own vulnerability.

(4) Observation and Fields of Fire.--Good observation is essential to accurate delivery of defensive fires and to prevent surprise. It is correspondingly important to deny good observation to the enemy to reduce the effectiveness of his fires. Clear fields of fire are sought, particularly in gaps between platoon and company positions. Observation posts are positioned on dominating terrain to provide continuous observation over the battalion area. Helicopters should be used for observation and for positioning and shifting ground observation posts wherever it is practical to do so. Battlefield surveillance radars are emplaced to maintain surveillance over the area under conditions of reduced visibility.

(5) Avenues of Approach

(a) The battalion commander gives attention to approaches suitable for foot or mechanized movement which lead into the battalion defensive position.

(b) Measures are also taken to guard against helicopter-borne or parachute landings in the area. The battalion commander examines the terrain to his front, flanks, and within his position to determine likely approach routes for helicopters, as well as possible landing zones. Observers are located to give warning of the approach of hostile helicopters, and automatic weapons are sighted where they may take enemy helicopters under fire. When potential enemy landing zones are located within a battalion defense area or in an area which may be observed, plans are made to keep these areas under surveillance and to deliver all available fires on enemy landings.

(c) Avenues of approach within and behind the battalion are reconnoitered to determine the best routes for movement of reserves to blocking positions or to positions from which counterattacks may be launched.

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b. Security.--Provisions are made to counter an attacker's inherent advantages of initiative and ability to concentrate his forces, and to force him to attack under unfavorable circumstances. Depending on the mission assigned, security forces seek to deceive the enemy as to the area in which the decision will be sought; to detect the time, direction, and size of the enemy's attack; to disorganize the enemy and canalize him; to force him to present a lucrative target; or to destroy him.

(1) Mobility possessed by enemy forces places emphasis on all-round security. The battalion should be oriented to defend against attacks from any direction. Security of rear area and administrative and logistic installations assumes an increasing importance. Marine aviation and force and division reconnaissance units are employed in security missions. In addition to security forces of higher echelons, the battalion employs outposts, patrols, listening posts, observation posts, surveillance radars, infrared detection equipment, and warning devices which may be improvised. Four rifle companies enable the battalion to organize a flexible defensive position and still provide sizable forces for employment on security missions.

(2) Depending upon the plan of defense, security forces of higher units may not attempt to force the enemy into early deployment. It may be desirable to permit him to advance close to the defensive area or into areas where defensive fires are most effective.

(3) When nuclear weapons are authorized, security forces have the capability of destroying an enemy attack before it reaches the principal area of defense.

c. Mutual Support.--Units and weapons are located and employed so that they can assist one another. This applies to units on the flanks as well as units to the front and rear. It is desirable for a unit to be able to place flanking fires across a part of the front of units on its right and its left. Units in depth support units to the front, flanks, and rear. Arrangements are made for mutual support between platoons, between companies, and between battalions. On occasions, when defensive elements are widely dispersed, mutual support by interlocking fires is not always possible. Mutual support then is achieved by positioning or moving of units, or by the reserves. When the enemy nuclear threat is significant, the defender achieves a compromise between passive security afforded by separation of his units and the loss of solidity of his defensive position. Maximum use is made of helicopters in moving reserve elements and fire support means to assist other friendly units under attack.

d. Defense in Depth.--Defensive positions are organized in depth in order to absorb the strength of the enemy attack, to prevent free maneuver on rear areas, and to slow or stop him where he may be destroyed by counterattack. Maximum depth of defense is a requirement when the enemy has the capability of rupturing a defensive position with nuclear weapons and the ability to exploit his attack. Positions are prepared to protect key terrain, to reduce overall nuclear vulnerability, and to assist maneuver of the reserve force. The fourth rifle company increases the battalion commander's capability for organizing his position in depth.

e. All-Round Defense.--Battalion defensive positions are organized so they are capable of defending against attacks from any direction. Usually this will entail orientation of the battalion's strength to defend against

attacks primarily from one direction, in which case it is necessary to have battalion reserves prepared to occupy previously prepared positions to protect the flanks and rear of the battalion. There will also be situations which require the battalion to give equal attention to the hazard of attack from all directions, causing the establishment of a complete perimeter defense.

f. Coordinated Fire Planning

(1) Coordination of fires of all organic weapons, tanks, artillery, naval gunfire, and close air support is essential to a successful defense. Fire support plans are developed concurrently in response to instructions of the battalion commander. Close supervision over these plans is maintained by the S-3 to ensure complete coordination. Defensive fires are planned to bring the enemy under fire as soon as he comes within observation, to subject him to increasingly heavier fire as he approaches the battalion position, to break up his assault by placing fires immediately in front of the position, and to destroy him within the position by a combination of fires and counterattack. Fire support plans include fires of all weapons which may delay or destroy armored vehicles.

(2) When used, nuclear fires dominate the defensive fire support plan. Nuclear fires are planned on all probable areas in which enemy forces are expected. Nonnuclear fires are planned to assist in the defense of unit positions, to cause the enemy to concentrate, and to augment the effects of nuclear fires. Troop safety is a critical consideration in planning nuclear fires. For further information on fire planning in the defense, see section VIII.

g. Coordinated Barrier Planning

(1) A barrier system utilizes a series of natural and artificial obstacles which will canalize, direct, restrict, delay, or stop the movement of enemy forces. For a barrier system to achieve maximum effectiveness, it is necessary that planning be coordinated at all echelons of command.

(a) Natural obstacles include steep slopes, rivers, gullies, swamps, heavy woods, thick jungle, and deep snow and manmade objects such as buildings, bridges, fences, and similar construction.

(b) Artificial obstacles include demolished bridges; road craters; abatis; flooded areas; minefields; contaminated areas; wire entanglements; roadblocks; antitank ditches; and log, steel, and concrete structures.

(2) Barriers are used in defensive operations to:

(a) Delay initial enemy advance toward the front or flanks.

(b) Delay movements of penetrating or enveloping forces.

(c) Canalize enemy penetrations into areas where they can be brought under fire and destroyed.

(3) The battalion barrier plan is usually based on the barrier plans of higher echelons. It also contains detailed instructions to the companies concerning their responsibility for construction of barriers, and the location and purpose of each barrier.

(4) The employment of barriers is a vital element of defense and is integrated in the battalion plan of defense. Care is taken to ensure that there are sufficient gaps and lanes in the barrier system to permit movement of friendly forces for patrolling and counterattacking. Obstacles are most effective when covered by fire; therefore, the barrier plan and the fire support plan are carefully coordinated.

(5) An effectively coordinated barrier system is of particular importance when defending on extended frontages and when large intervals exist between defending units.

(6) The demands on manpower, material, equipment, and time impose a limitation on the extent of barrier construction.

(7) Nuclear weapons may be used to create obstacles and to deny areas to the enemy. Care must be taken that craters, fallout, or induced radiation do not interfere with the overall plan of defense.

h. Flexibility.--A battalion commander achieves flexibility in defense through centralized control of supporting fires and by withholding an adequate reserve for employment in blocking positions or counterattacking. Flexibility is enhanced when helicopters are available to move the battalion reserve to counter hostile attacks. They permit the rapid movement of the reserve over difficult terrain to positions from which it may counterattack enemy forces. The use of trucks or amphibious vehicles also provides the battalion commander additional flexibility. The varying capabilities of all types of transportation are considered in planning a defense. Counterattack is the decisive element in the defense and is the means by which the defender gains the initiative. Effective communications is essential. A high state of training and discipline contribute to the flexibility of the unit. Speed of reaction is essential. Officers and noncommissioned officers should be able to adjust to the unexpected with a minimum delay. Decisive and aggressive leadership at all levels increases the overall flexibility of the battalion.

i. Maximum Use of Offensive Action.--Commanders at each echelon in the battalion, and the troops themselves, are trained to shift rapidly from the defense to the offense. In fluid situations with wide frontage and great depths, there are many opportunities to regain the initiative by offensive action. Enemy forces are destroyed by fire and close combat, and constant pressure is maintained.

j. Maximum Separation Consistent with Unit Mission.--The battalion commander weighs the estimated enemy nuclear threat against the danger of defeat. He disposes his units to provide reasonable, passive protection against nuclear attacks when the estimated nuclear threat is great. On the other hand, he cannot disperse his forces so extensively that he no longer can accomplish his mission. It is desirable for the battalion to organize its defense as an integrated unit, and employment of its components is determined by the battalion mission, estimated extent of the enemy threat, terrain, and the situation confronting the battalion commander at a particular time.

k. Time.--Time available for planning and preparation is considered in selecting a form of defense.

3407. PLANNING THE DEFENSE

Upon receipt of the defense order, the battalion commander and staff follow the general sequence of command and staff action as shown in FMFM 3-1, Command and Staff Action, in formulating their plan of defense. This plan consists of a scheme of maneuver and a plan of fire support. Both are developed concurrently and are closely integrated. The plan of defense also covers the essential details of counterattack planning, security, logistic support, and the establishment of the communication system necessary for control.

3408. DEVELOPMENT OF THE SCHEME OF MANEUVER

a. General.--The organic maneuver elements of the battalion are the four rifle companies. The scheme of maneuver is the plan for placement and movement of these and attached maneuver units to accomplish the mission. Throughout the development of the scheme of maneuver, the commander considers the mission, enemy terrain and weather, and troops available and their effect on the plan of defense.

b. Sequence.--In developing the scheme of maneuver, the battalion commander and staff normally follow a logical planning sequence similar to that outlined as follows:

(1) Analyze the mission and all other available information.

(2) Determine key terrain and major avenues of approach into sector.

(3) Determine forces to be employed on the FEBA and in reserve.

(4) Determine security forces and security measures required.

(5) Determine requirements for obstacles, antitank defense, and other defensive measures.

(6) Establish control measures required.

(7) Complete organization for combat.

(8) Determine administrative and logistic support.

(9) Consider alternate plans for all foreseeable contingencies.

c. Other Considerations.--The sequence outlined above is flexible and may be adjusted to the situation, type of operation, or the personality of the commander. Some of the steps may be considered in a different order or concurrently and some may be revised as the planning is carried out. During appropriate steps of this sequence, the fire support plan and the counterattack plan are also considered and developed.

d. Analysis of Defensive Mission

(1) The first step in developing a scheme of maneuver is a thorough analysis of the battalion mission and a consideration of all available information about weather, terrain, and friendly and enemy forces. The commander must study his order to ensure he understands all

tasks, stated and implied, which the battalion must accomplish. Normally, these tasks are stated in terms of a specific sector which must be defended.

(2) The regimental commander usually designates the trace of the FEBA and the initial location of the combat outpost, when used. He designates the responsibility of the battalion along the FEBA (and, if appropriate, along the combat outpost (COP)) by specifying the location of battalion boundaries and coordinating points. In the mobile defense, the regimental commander may also specify that the battalion will organize a strongpoint within the sector of responsibility.

e. Analysis of Defensive Sector

(1) The commander performs a detailed reconnaissance of the area by foot, air, or motor vehicle. Based upon this reconnaissance and other information obtained, he analyzes his defensive sector to determine which terrain feature(s) must be controlled to accomplish his mission. If the seizure or control of such features would afford a marked advantage to either opposing force, it is a key terrain feature and should be controlled by the defender.

(2) The defender is not rigidly bound to physically occupy key terrain features; he may control entry to them or, in conjunction with fires, defend them with comparatively small forces. It may be necessary to defend key terrain features in strength. The commander may elect or be ordered to relinquish key terrain temporarily as a part of the scheme of maneuver.

(3) After a determination of key terrain, the commander analyzes the avenues of approach into his sector from all directions. He also considers avenues of approach to be used by elements of his force in the counterattack. The commander analyzes the observation, fields of fire, concealment, cover, and obstacles in the sector. He also considers possible improvement of the obstacles and the use of barriers to enhance his defense. From this analysis of his defensive sector, he determines how to best use the terrain within available resources to accomplish his mission.

f. Determination of Forces to be Employed on FEBA

(1) As the commander analyzes the terrain , he considers the amount of resistance desired on each major avenue of approach based upon his visualization of what will be required to hold the terrain or execute the required delay. As one technique, the commander may visualize the number of platoon size units required on the FEBA. From this, he determines the number of companies required and selects tentative lateral boundaries.

(2) The number of companies employed along the FEBA, the width of the sector assigned to each, and the specific locations of blocking positions selected for preparation and occupation (or for preparation and possible future occupation) depends upon the mission; the size, trafficability, and natural defensive strength of the area to be defended; enemy capabilities; and the capabilities of the defender.

(3) The battalion commander assigns proportionate frontages to his forward companies according to the natural defensive strength and importance of their defense area. Each company is assigned sufficient frontage and depth to enable it to disperse as the mission will permit.

(4) The battalion is capable of conducting a defense, on ideal terrain, with three companies forward, on frontages up to 4,500 meters with depth of about 2,000 meters. Companies are capable of conducting a defense on ideal terrain on frontages up to 1,500 meters with depths of about 1,100 meters. These are considered to be the maximum frontages; the frontage will normally be considerably less. Conditions which limit visibility and the fields of fire of the defender, offer good avenues of approach to the enemy, or reduce the combat power of the defender will normally reduce this maximum frontage. The actual capability of the battalion in any given situation can only be determined after a complete estimate of the situation.

(5) Companies are not assigned frontages in excess of 1,500 meters. When the battalion has been assigned a frontage in excess of 4,500 meters, it will still occupy only 4,500 meters or less of its defensive sector. The additional lateral area will be covered by patrols, fires, observation posts, listening posts, minefields, and other means. In effect, this will result in gaps between battalions which must be covered by as many of the above mentioned means as are available. An enemy attack through these gaps must be detected, located, fired upon, and if the need arises, blocked and/or destroyed by the fire and maneuver of all or part of the battalion. In this regard, the battalion plans to occupy a perimeter when forced by enemy action, if retention of a particular terrain feature within the battalion defensive area is imperative to the regimental defense, or if there is danger of the battalion becoming isolated from other friendly defending units during the conduct of defense of its sector.

(6) In the assignment of frontages to forward units, the commander also considers the additional support which may be rendered to them (e.g., additional combat forces in support or attached) in order to equalize defensive tasks. See figures 50, 51, and 52 for defensive formations.

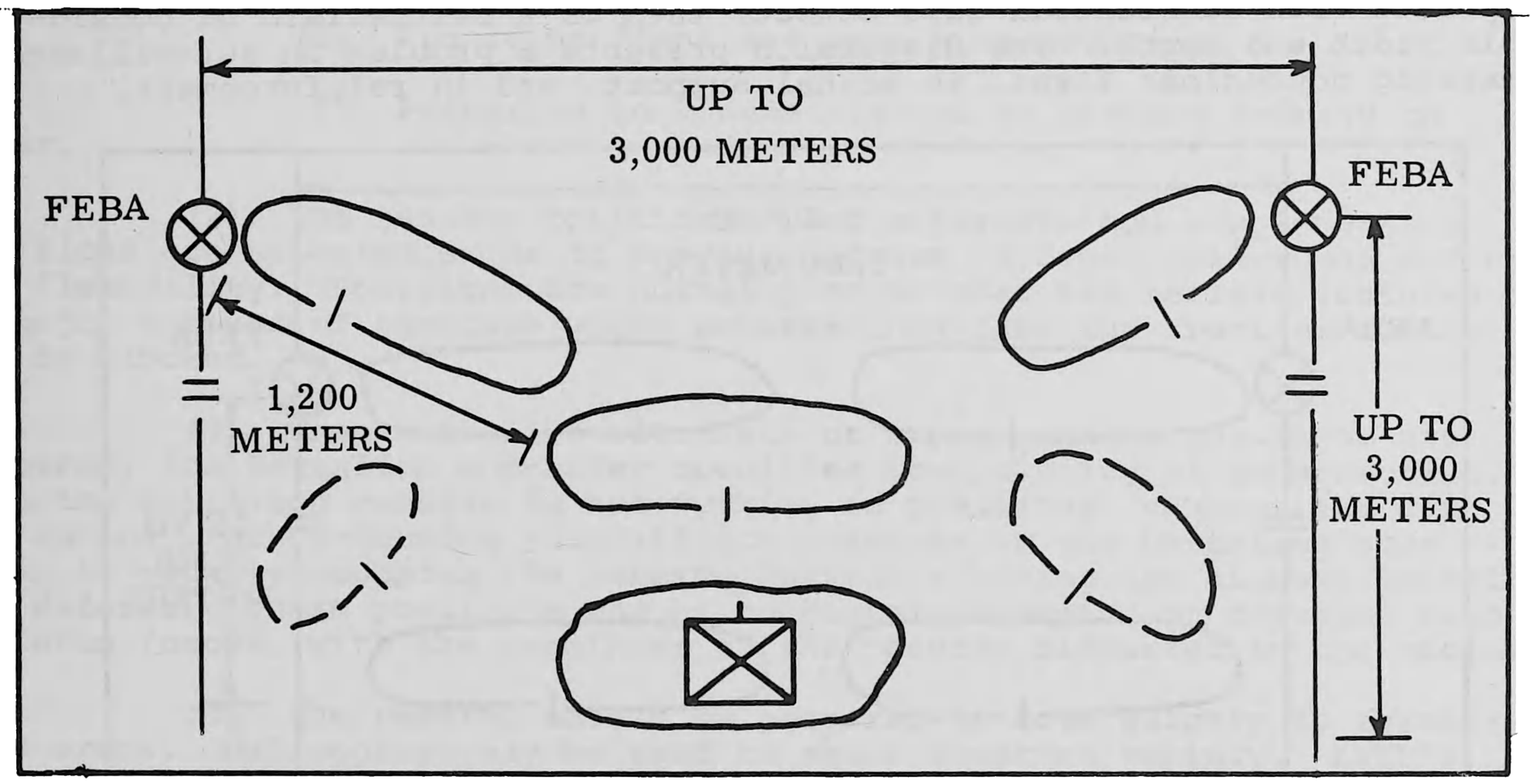

Figure 50.--"Y" Formation.

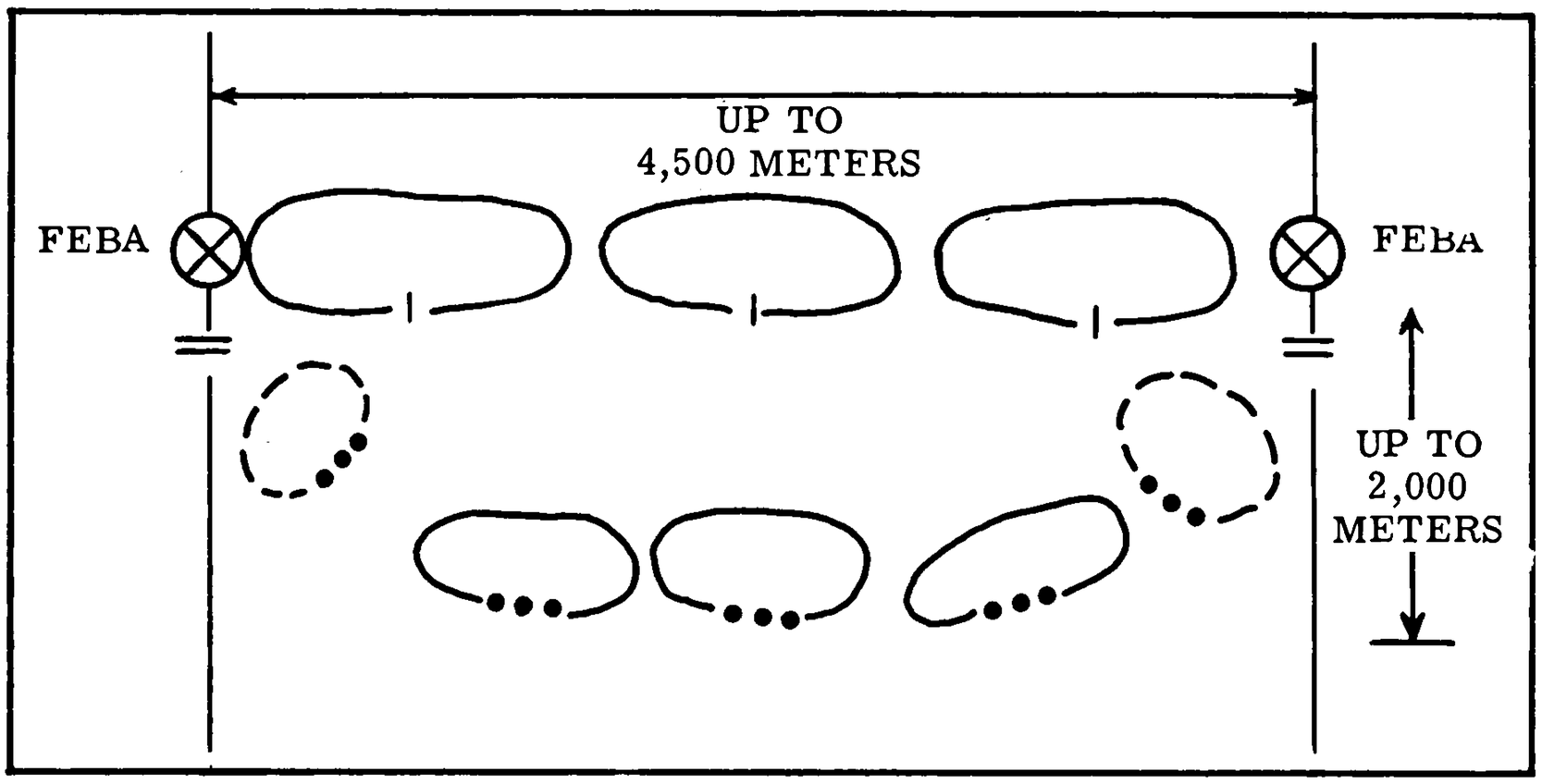

Figure 51.--"T" Formation, Three Companies Forward.

g. Dispersion and Mutual Support

(1) The commander is constantly faced with the problem of weighing his vulnerability resulting from concentration or dispersion. The defender's nuclear weapons may assist materially in providing a solution to the problem of controlling large areas since they can destroy enemy forces of significant size that may attempt to move through lightly held areas. Chemical weapons may also be employed in such areas. Dispersion is between, rather than within, battalions. They must be able to operate with substantial gaps between them on a battlefield of considerable width and depth. The dispersion presents a problem in surveillance, in massing nonnuclear fires, in mutual support, and in reinforcement.

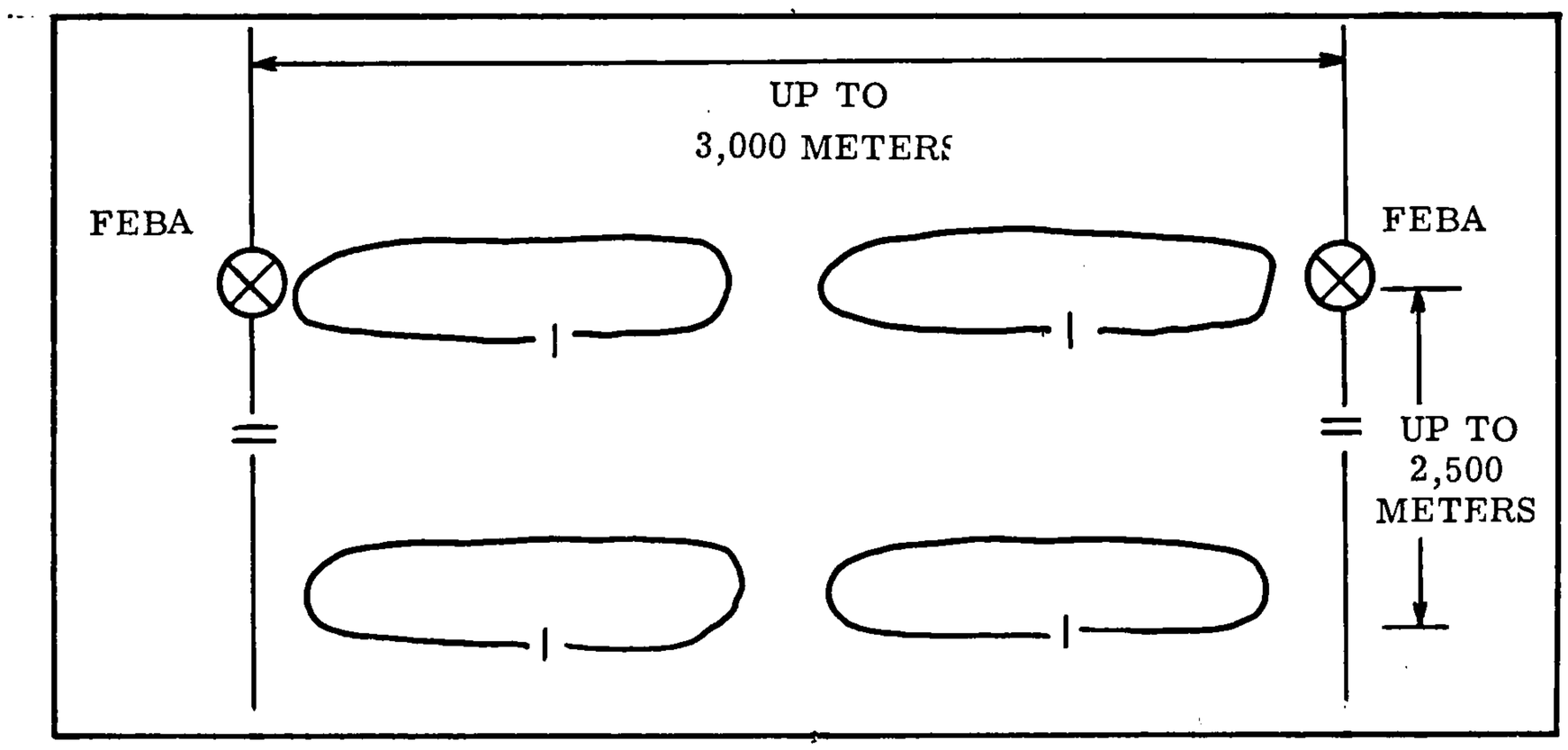

Figure 52.--Quadrangular Formation.

(2) It is desirable for units and weapons to be located and employed so that they can assist one another with direct fire of automatic weapons. As a minimum, mutual support is obtained between companies by the fires of 81mm mortars.

(3) Care is exercised to ensure a proper balance between concentration and dispersion. Dispersed personnel and equipment at every echelon should be capable of accomplishing the mission. The depth of the area assigned to the forward companies is comparatively shallow in relation to the overall depth of the battalion area. However, they are given adequate space to position their weapons, control facilities, and logistic elements, and to establish alternate and supplementary positions.

h. Battalion Reserve

(1) As the battalion commander is determining the forces required on the FEBA, he concurrently considers the size and location of the reserve. He allocates sufficient combat power to the reserve after a consideration of the mission, enemy situation, terrain, and combat power available. The reserve is not a residue remaining after allocation of elements to forces on the FEBA. A reserve may consist of troops and nuclear weapons or troops alone. Appropriate missions for the battalion reserve include:

(a) Providing the battalion portion of the regimental combat outpost.

(b) Preparing and occupying blocking positions.

(c) Conducting counterattacks.

(d) Assisting forward companies when practicable, through use of organic fire support.

(e) Providing flank and rear area security.

(f) Preparing to assume mission of forward company on order.

(2) The reserve position(s) and alternate and supplementary positions are selected so as to provide defense in depth, all-round defense, and flexibility. Positions are normally on or near key terrain features or on major avenues of approach where penetrations from the front or flanks can be blocked.

(3) When battalion alternate or supplementary positions are prepared, the battalion commander specifies the priority of construction. When the battalion reserve is not working on positions, manning the combat outpost, or performing surveillance missions in the battalion rear area, it usually occupies the reserve positions having the highest priority for defense. These positions may be completely occupied or occupied with skeleton forces, with the remainder of the reserve dispersed in the vicinity.

(4) The reserve should be prepared to move quickly to threatened areas. Helicopters may be used to shift reserves rapidly. LVTP's afford limited protection for the reserve and a capability to concentrate power rapidly from dispersed positions to participate in a counterattack.

i. Determination of Security Forces and Measures Required.--In planning his defense, the battalion commander ensures that adequate provision is made for all-round security. The combat power allocated to security forces and the measures taken are determined by a consideration of the mission, enemy situation, terrain, and combat power available. Consideration is also given to the degree of security provided by security elements of higher headquarters; i.e., covering forces and general outpost forces.

3409. COVERING FORCE

A covering force is normally established by corps headquarters, or by the commander exercising overall command of tactical operations if a corps headquarters has not been established. This covering force has the mission to delay the enemy forward of the general outpost for a specified period to provide time for the preparation of defensive positions, to disorganize the attacking enemy forces as much as possible, and to deceive the enemy as to the location of the FEBA.

3410. GENERAL OUTPOST (GOP)

a. General.--The force commander normally prescribes the general location of the general outpost. The GOP is the division security element. This outpost is normally used in area defense when there are friendly forces on either flank. When reinforced by additional power, it may be used in a mobile defense.

b. Composition

(1) The size and composition of a general outpost is based on the following considerations:

(a) Mission.

(b) Area of operations.

(c) Relative combat power of opposing forces.

(d) Enemy capabilities.

(2) There is no prescribed organization for a general outpost. It should be a balanced force of combined arms with the necessary logistic support.

c. Missions.--The general outpost warns of the enemy approach and provides time for the forward regiments and battalions to prepare positions in the battle area. It covers the withdrawal of the division reconnaissance battalion when it is operating to the front. The general outpost should prevent enemy ground observation of the battle area. It delays the enemy advance within its capability and deceives him as to the true location of the battle area.

d. Location.--When the Marine division is part of a landing force, the initial location of the GOP may be designated by the landing force or corps commander. Its location should be far enough forward to accomplish the mission but not so far forward as to risk destruction unnecessarily. The position selected should provide good observation and take advantage of natural obstacles and concealment.

e. Conduct.--The general outpost accomplishes its mission by observation and fire, use of obstacles and demolitions, aggressive patrolling and reconnaissance, delaying action, deception measures, and when necessary, close combat.

3411. COMBAT OUTPOST

a. General.--The combat outpost is a security element of the regiment consisting of a series of outguards covering the foreground of the positions of the regiment in the battle area.

b. Mission.--The primary mission of the combat outpost is to provide early warning and information of the advance of the enemy, to provide a counterreconnaissance screen, and to deny the enemy close ground observation of the battle area. Within its capabilities, the combat outpost delays and disorganizes the enemy and attempts to deceive him as to the true location of the battle area. It does not engage in close combat. The combat outpost provides target information for fire support agencies.

c. Composition and Organization

(1) The strength and composition of the combat outpost varies with distances involved, enemy situation, weather, and terrain. For each forward battalion in the battle area, the combat outpost may vary in strength from a rifle platoon to a rifle company reinforced with weapons organic to the battalion, as well as tanks and reconnaissance elements. Artillery and mortar fires are usually provided from their positions within or to the rear of the battle area through forward observers located with the combat outpost.

(2) The combat outpost is organized as a series of outguards, sentinels, and patrols. It may be ordered to maintain contact with security forces to the front and flanks. Strength of the combat outpost may be reduced as long as other security forces remain to the front and observation is good; however, during darkness or periods of reduced visibility and when contact with the enemy is expected, strength should be increased.

d. Location.--The combat outpost is normally located on the first high ground forward of the FEBA. Its location should be within supporting distance of the forward battalions. Ideally, its location should:

(1) Afford long-range observation and fields of fire.

(2) Provide obstacles to the front and flanks.

(3) Provide cover and concealment for positions.

(4) Provide covered and concealed routes of withdrawal.

(5) Deny the enemy close ground observation of the battle area.

(6) Be within supporting distance of the battle area.

e. Control

(1) Control of the combat outpost may be exercised through the reserve battalion commander or through the commanders of forward battalions.

Better control usually results when exercised through forward battalion commanders. The combat outpost withdraws on order of the commander controlling its actions. Normally, the combat outpost is withdrawn before it becomes involved in close combat.

(2) Troops for the combat outpost may be furnished by forward battalions or the regimental reserve. When the combat outpost is controlled through the reserve battalion commander, troops are normally furnished by the reserve battalion. If the outpost is controlled by forward battalion commanders, troops may come from either the forward battalion or the regimental reserve. In the latter case, they are usually attached to forward battalions.

f. Conduct.--The combat outpost maintains contact with, and assists the withdrawal of, the general outpost and covering forces to its front. Early contact with the enemy is gained and maintained by the use of patrols, security detachments, and observers who bring the enemy under long-range fire and supply information on enemy activities to the forward battalions. The combat outpost subjects the enemy to an increasing volume of fire as he approaches the outpost position unless, for purposes of deception and surprise, it waits until an unsuspecting enemy presents a more profitable target. The combat outpost resists until the strength and proximity of the enemy require its withdrawal. Withdrawal is then made over previously selected routes so that fires from the battle area can be coordinated with the withdrawal. Contact is maintained with the enemy at all times by a combination of patrols and observation. After the enemy attack has been defeated and he is forced to withdraw, the combat outpost is reestablished.

3412. SECURITY OF THE BATTLE AREA

a. General.--The area to the rear of the combat outpost is the responsibility of forward battalions. The forward defense echelon is organized to carry out its basic mission--defense. Trace of the FEBA, boundaries, and coordinating points delineate responsibility for the defense of the battle area to subordinate units. Commanders of these units organize the forward defense area into defensive positions to provide good fields of fire and observation, and to take advantage of the natural defensive strength of the area. They prepare positions to block avenues of approach at the FEBA and, in depth, to control the area.

b. Local Security

(1) Local security provided by forward companies consists of observation posts, patrols, ambushes, and listening posts. Security positions are generally placed within 400 meters from those defensive positions on the nearest terrain features which allow observation to the company's front and mutual defense. The company commander may direct each frontline platoon to furnish local security, or he may assign the mission to his reserve platoon. Security posts normally consist of two to four observers. As the enemy approaches, local security elements give warning and observe to determine enemy strength, actions, and routes of approach. They withdraw in time to prevent close combat. At night, listening posts, supplemented by patrols, are established on likely avenues of approach. The battalion surveillance radars are located where they can maintain constant surveillance over dangerous avenues of approach. Security arrangements make effective use of surveillance devices, such as seismic intrusion detectors, starlight scopes, sensors, and infrared and xenon lights.

(2) Reserve companies of a forward battalion, a reserve battalion, and command and administrative installations are responsible for their own local security at all times. This assumes increasing importance within an extended area or mobile defense.

c. Rear Area Security

(1) While planning for defense of the assigned area, positions which contribute to rear area security are developed. A separate plan for rear area security is not prepared at battalion level. Rear area security missions are included in the operation order. In addition, rear area security measures are integrated into the barrier plan, surveillance plan, fire support plan, and patrol plan. The positioning of units and the selection of supplementatry positions, as well as the local security measures taken by all subordinate elements, contribute directly to rear area security.

(2) A separate rear area security force is not established. Units of the reserve are given a contingency mission of providing rear area security forces. When a situation develops which requires the employment of a force against a hostile force located in the battalion's rear area, the selection of the unit and size force to be employed depends on the tactical situation at the time and the size and location of the hostile force.

(3) The demands for attention to primary missions in the defense dictate that no unit commander be designated as battalion rear area security commander. In the event that more than one unit is employed against a hostile force in the battalion rear area, the battalion commander will designate the commander of the force.

d. Flank Security

(1) Constant information on the situation in adjacent areas is necessary for adequate flank security. The battalion commander secures this by use of patrols and observation posts, exchanging liaison officers, establishing lateral communications, and other similar measures. Specially placed ground observers, sensors, or air observers are used to supply additional information.

(2) Exposed flanks are secured by locating reserve units to block the principal approaches from the flanks. Observation of these units may be extended by patrols and by infrared equipment and surveillance radars under conditions of reduced visibility. Demolitions, obstacles, minefields, and contaminants may be used to assist in blocking these approaches. Helicopters and observation aircraft are used to supplement the surveillance effort.

3413. SECURITY AGAINST ATTACK BY AIRCRAFT, AIRBORNE, AND HELICOPTERBORNE UNITS

a. The battalion protects itself against hostile air attack by adopting the following measures:

(1) Establishing an effective warning system including the use of all existing intelligence and communication facilities.

(2) Taking advantage of natural cover and concealment afforded by the terrain and making extensive use of camouflage.

(3) Ensuring an adequate degree of separation and dispersion of units and installations.

(4) Employing antiaircraft units attached to, or supporting, the battalion.

(5) Delivering fires against low flying enemy aircraft. (Conditions under which weapons are employed are established in an SOP.)

b. The battalion commander plans the following additional measures to protect his unit against enemy airborne and helicopterborne attacks:

(1) Establishes observation over likely helicopter approach lanes leading into his defense area.

(2) Maintains air and ground surveillance over potential airborne drop zones and helicopter landing zones.

(3) Develops counterattack plans to strike enemy forces as rapidly as possible after their landing. If possible, a mobile counterattack force is formed and rehearsed.

(4) In developing his fire support plans, he provides for positioning of automatic weapons to cover likely helicopter approach lanes and landing zones. He also prescribes when individual Marines and organic crew-served weapons may open fire on approaching enemy helicopters and transport aircraft.

(5) If time permits, he improvises obstacles which may be used to prevent the use of potential drop zones and landing zones; i.e., fougasse, abatis, wire entanglements, demolitions, and other such measures.

3414. SECURITY AGAINST GUERRILLAS AND INFILTRATION

a. Organization for Defense

(1) The battalion commander makes a definite, simple plan to counter guerrillas and infiltrators. Existing observation posts and communication systems are used to the maximum. Additional observation posts or patrols are established where necessary during periods of poor visibility and to cover gaps between companies. Roadblocks, checkpoints, and other security and control measures may be used to guard against guerrillas and infiltrators entering the area. Each unit is responsible for the security within its own area. The battalion commander designates a subordinate commander, usually a reserve company commander, to coordinate the defense of the battalion area to the rear of the forward companies. He ensures that defense plans of all units and installations within the prescribed area are integrated into the overall defense plan, and that complete surveillance of the entire area and adequate communication systems are established. He may organize a mobile force or forces to destroy enemy entering the area. He prepares detailed patrol plans and ensures that men within his sector, particularly those in observation posts, are provided with current patrol plans.

(2) An infantry battalion in regimental reserve may be assigned the mission of defending that portion of the regimental sector not occupied by forward battalions against guerrilla and infiltration attacks. The organization for defense is similar to that described in the previous subparagraph. Since the area to be covered is usually relatively large, numerous motorized and helicopter patrols are required. When tanks are available, they may be employed as part of the mobile force. Infantry battalions in the division reserve regiment usually are assigned specific subdivisions of the rear area.

b. Conduct.--The observation posts and patrols periodically report to the establishing headquarters. On receiving a report that enemy forces are approaching or are in the area, the headquarters alerts all units and installations. All unessential movement of friendly troops is curtailed, and essential movement is closely coordinated. Units within the battle area normally defend against these attacks by fighting from prepared positions. Once established, contact with the enemy is maintained, and continuous reports are submitted as to the strength, location, and direction of movement or actions of the enemy force. When the strength and location of the threatening enemy force is determined, an appropriate mobile force is committed to deal with it. Helicopters are used, whenever possible, to move the force to positions to launch its attack. Combat patrols mop up scattered enemy groups not destroyed by the mobile force.

3415. BARRIER PLANNING

The battalion commander plans for use of obstacles forward of and within his defensive sector which are incorporated in the regiment and/or division barrier system. Care is exercised in planning the barrier system to avoid interfering with the rapid shifting of units. They are constructed with due regard to the location of defensive positions and the effect of barriers on the mobility of friendly forces, particularly in the counterattack. Toxic chemical landmines can be integrated into or supplement the barrier system to strengthen obstacles and assist in denying areas. Exploding flame devices, flame expedients, and illuminants can be prepared, controlled, and fired by forward elements to create obstacles. Natural obstacles are used to the maximum, since the demands on manpower, material, equipment, and time impose a limitation on the extent of barrier construction.

3416. DEFENSE AGAINST ARMOR

a. Closely related to barrier planning is the plan for defense against armor. Natural obstacles and antitank minefields may facilitate the destruction of armor by canalizing it into fields of fire of antitank weapons. The antitank defense is established laterally and in depth throughout the defensive sector to include use of all antitank weapons, mines, tanks, artillery, and nuclear weapons. Primary attention is given to those avenues of armor approach which present a significant threat to the battalion. However, no area is overlooked in antitank defense planning, since armored forces may be employed successfully over seemingly unfavorable terrain.

b. Antitank defenses are planned so enemy armor is engaged as soon as it comes within effective range. They are designed to separate enemy armor from its accompanying infantry and to destroy it forward of the battle area. If enemy armor reaches or enters the battle area, the defense attempts

to canalize it into terrain where its destruction will be facilitated by offensive action of armored reserves and by antitank weapons positioned in depth. When nuclear weapons are employed, the antitank defense is designed to force enemy armor to mass so as to present a remunerative nuclear target. Antitank fires are integrated with other types of fire and with the barrier system. Rifle company antitank weapons are under the direct control of the company commander who coordinates their employment with battalion antitank weapons.

3417. DECEPTION

In developing his plan of defense, the battalion commander considers the use of deception that may cause an attacker to dissipate or misdirect his effort. The security force employs deception to cause the enemy to deploy his forces prematurely and delay the execution of his plans. Dummy positions and equipment and simulated activities may enhance economy of forces and/or cause the enemy to execute unnecessary offensive action and render his force vulnerable to counteraction.

3418. FORWARD EDGE OF THE BATTLE AREA

The battalion FEBA is an imaginary line across the forward edge of the battalion positions. Its primary purpose is to assist in coordinating the fires of all weapons in defeating an enemy assault. The general trace of the FEBA is indicated to the forward companies by the use of coordinating points on the boundary between them. The exact trace of the FEBA is ultimately determined by the forward companies and their subordinate units. The trace is irregular and designed specifically to promote the most efficient use of flanking fires. Desirable characteristics of the FEBA are:

a. Observation to the front and flanks.

b. Good fields of grazing and flanking fires for automatic weapons.

c. Natural obstacles.

d. Concealment from air and ground observation.

e. Avoidance of large salients and reentrants.

3419. CONTROL MEASURES

a. Boundaries

(1) Boundaries define the area of responsibility. They include areas within which units may fire and maneuver without clearance with other units. The boundaries between forward companies divide the battalion frontage according to the natural defensive strength and relative importance of the defense areas. Boundaries are located to avoid division of responsibility for the defense of key terrain features or avenues of approach. Every effort is made to give forward companies equal defensive tasks within their capabilities.

(2) When the combat outpost is controlled by the battalion commander, company boundaries are extended forward to points short of the combat outpost. If the combat outpost is controlled by the forward company commanders, the boundaries are extended through the COP to the limit of

effective ground observation forward of the COP. The extension of the boundary indicates the most forward limit of territorial responsibility. In either event, boundaries extend far enough to allow forward companies to position local security. Boundaries are normally located to coincide with easily recognizable terrain features. Boundaries between forward companies are extended to the rear to provide adequate areas for companies to organize their defense. (See fig. 53.)

b. Coordinating Points

(1) Coordinating points on boundaries fix the location at which a higher commander desires adjacent subordinate commanders to coordinate their defenses. The regimental commander designates coordinating points on the battalion boundaries at the FEBA and may designate coordinating points along the COP, usually on recommendation of commanders of battalions located along the FEBA. Battalion commanders designate coordinating points on their company boundaries at the FEBA and, when the forward companies control the combat outpost, designate coordinating points on company boundaries at the combat outpost. (See fig. 53.)

(2) A coordinating point should be located at or near a terrain feature easily recognizable both on the ground and on a map. Commanders (or their representatives) coordinate at these points and determine whether the area between their units should be covered by fires, barriers, physical occupation, or a combination of these means. When subordinate commanders believe that a coordinating point should be relocated, they recommend a change to the commander who designated it. Battalions may, without permission from higher headquarters, refuse their flanks from designated coordinating points on the FEBA to obtain adequate security. Flanks must not be refused to the extent that dispositions and fires cannot be coordinated with adjacent commanders well enough to achieve a continuous defense. Effective surveillance must be maintained in the gaps between battalions.

c. Assembly Areas.--Assembly areas are general locations designated for occupation by reserve elements not employed in blocking positions. Locations selected are based primarily on the reserve element's mission and mobility, concealment and cover provided, and the availability of routes of entry and exit.

d. Blocking Positions.--A blocking position is a location organized to deny the enemy access to a given area or prevent the further advance in a given direction.

3420. FIRE SUPPORT PLANNING

a. Defensive Fires.--Defensive fires are divided into four general categories. See section VIII for additional information.

(1) Long-range fires are designed to engage the enemy as soon as possible after his discovery and prior to the time he forms for the attack. These fires are provided by supporting aircraft and long-range weapons whose employment does not indicate the location of forward elements of the battle area. If supporting weapons are employed on the combat outpost or general outpost, their initial fires fall into this category. The planning of long-range fires is primarily a task of echelons above the battalion. To achieve surprise and deception and avoid a standard pattern of defense, long-range fires sometimes are not employed.

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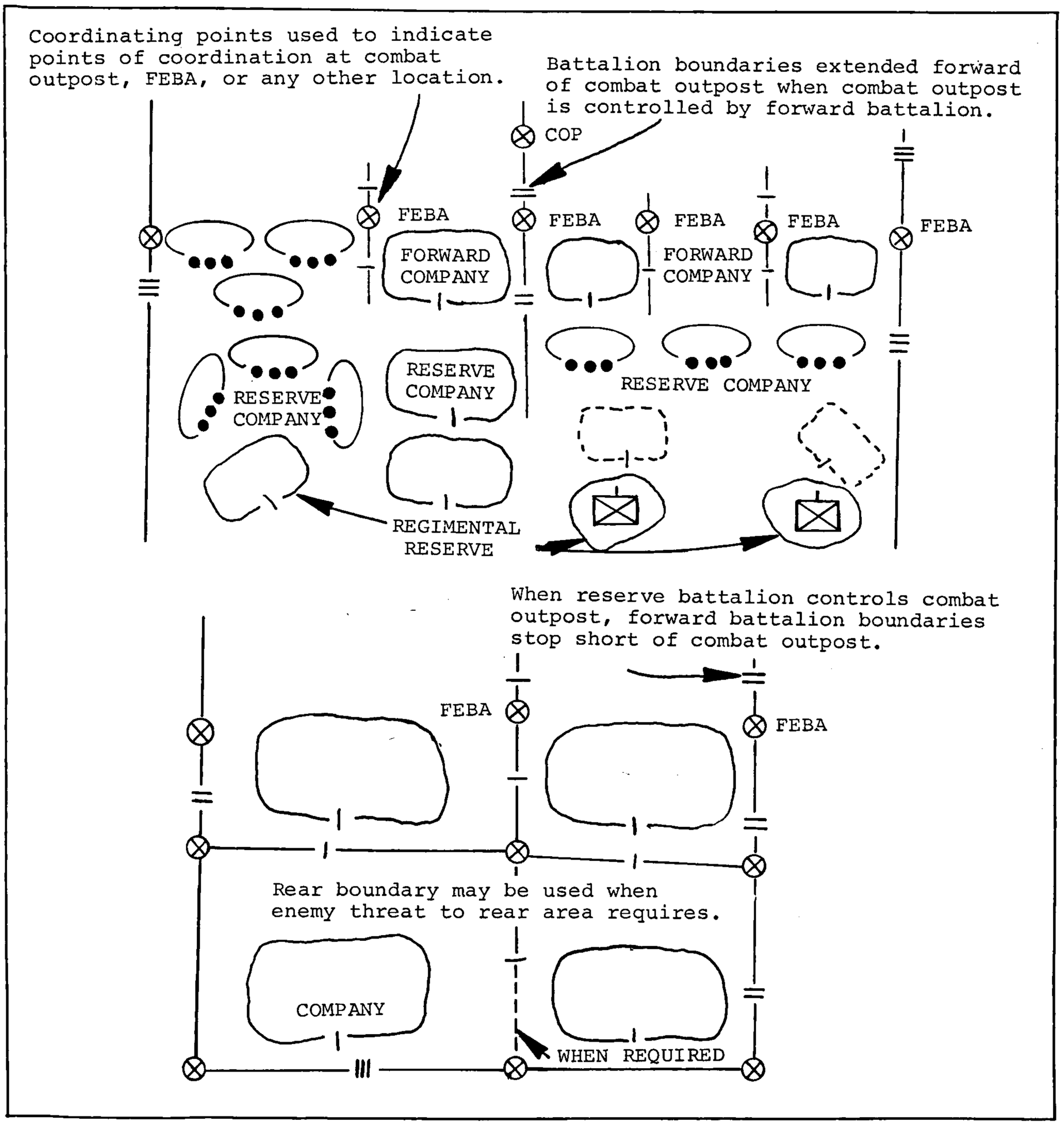

Figure 53.--Use of Boundaries and Coordinating Points.

(2) Close defensive fires include counterpreparation and fires to disrupt the enemy attack once it has been formed, but prior to the assault. Such fires are planned for all available weapons. The planning, control, and execution of close defensive fires are matters of direct concern to the forward battalion commander.

(3) Final protective fires (FPF's) are defensive fires designed to break up the enemy's assault under any condition of visibility. They are a first-priority, prearranged barrier of fire laid down just in front of the

forward edge of the battle area and consist of the fires of mortars, artillery, and machineguns. The rifle company commander calls for final protective fires, normally upon the request of the rifle platoon commander in the threatened area.

(4) Fires within the battle area are planned to destroy or limit penetrations and to support counterattacks. They include targets for direct fire weapons capable of firing into the penetrated area.

b. Planning Considerations

(1) General.--Defensive fire support plans are normally more complete than offensive fire support plans. There is more time available for their preparation and they are based upon terrain and probable developments rather than on known and suspected enemy dispositions. The planning sequence is the same as for offensive fire planning. However, the nature of the defensive situation and the time available for planning will permit the successive consolidation, review, and expansion of all subordinate plans at each succeeding higher echelon. Thus the complete fire plan is submitted to and reviewed by division. A major difference between offensive and defensive fire plans is that a portion of the offensive fire plan is prearranged as to both location and time, whereas the defensive fires are prearranged as to location and are fired at the time they are required--on call fires.

(2) Machineguns.--Machineguns of the rifle companies are normally employed on the FEBA in most forward platoon areas.

(3) 81mm Mortars.--81mm mortars are normally employed in a platoon position to permit better fire control and to facilitate supply. When employed as a platoon, they are emplaced within or near a primary platoon position of a reserve company. When the mortars cannot cover the entire battalion front, when mask clearance is limited, or elements of the battalion on the combat outpost cannot be supported from a platoon position, the mortar platoon may be employed by sections. Each mortar is capable of firing an FPF. The size of a single mortar FPF should not exceed an area 50 meters square. The size or shape of a mortar platoon FPF may be varied to fit the terrain and potential target; however, platoon or section FPF's should not exceed the 50-meter square criterion for each mortar employed. Section or platoon EPF's may be smaller than the product of several single FPF's in order to intensify the fire on the target.

(4) Antitank Weapons.--The Dragon missile system provides the principal antitank weapons of the infantry battalion. They are employed to cover avenues of armored approach together with the rifle company's LAAW's. Flanking fire, mutual support, and depth are sought in antitank weapon positions. For further discussion of Dragon employment, see appendix B.

(5) Artillery Fires.--Artillery fires are planned as part of the long-range fires, close defensive fires, and fires within the battle area. Excessive numbers of preplanned artillery fires slow the delivery of such fire when required rather than expedite it. A few artillery fires planned on likely avenues of approach and on identifiable terrain features from which shifts can be made will provide for the most effective artillery support when and where it is required. Artillery FPF's are integrated with

the final protective fires of the battalion, which include those of the machineguns and organic mortars. Each artillery battery normally fires one FPF. The 105mm howitzer FPF is 200 meters wide; a 155mm howitzer FPF is 300 meters wide. If necessary, the shape or pattern of the FPF can be varied to fit the situation. The regimental commander may determine the general areas for available EPF's or allocate them to the battalions. The battalion commander, in turn, designates general areas or allocates them to the rifle companies. The precise location of the FPF is the responsibility of the company commander in whose sector it will be fired.

(6) Tanks.--Tanks have the capability of supporting all phases of an area defense. The most effective utilization of their capabilities is achieved by their employment in offensive roles; i.e., counterattack. They may provide antitank fires as well as both direct and indirect fire support. See FMFM 9-1, Tank Employment/Antimechanized Operations, for detailed information on employment of tanks in the defense.

(7) Weapons of the Reserve Battalion.--Planning for and employment of the regimental reserve weapons include the following:

(a) In preparing his fire support plan, the reserve battalion commander gives consideration both to developing a fire plan to support his several counterattack plans and to preparing fires to support the primary defensive positions of the battalion. Targets for mortars and other indirect support weapons are planned on likely avenues of approach, on possible enemy observation posts, and in areas where the enemy may regroup to continue the attack if he is successful in penetrating the position of the forward battalions.

(b) The primary positions of the 81mm mortars, Dragons, and other supporting weapons of the reserve battalion normally are located so that their fires can support the reserve battalion's prepared positions. However, the 81mm mortars may be assigned an initial mission of supporting the forward battalions. When the mortars occupy supplementary positions to support the forward battalions, they return to their primary firing positions when the reserve battalion is to be committed.

(c) The reserve battalion commander uses Dragon and rocket launchers to add depth to the antitank defenses of the battle area. Mutual support is desirable between these weapons. Tanks in support of, or attached to, the reserve battalion are so disposed as to increase further the depth of the antitank defense. Tank units can be utilized to participate in counterattacks of the reserve battalion, and also to reinforce the fires of the reserve battalion.

(8) Close Air Support.--The mobility and long-range striking power of Marine aviation make it an important means of countering the initiative of the enemy's attack.

(9) Naval Gunfire.--When available, naval gunfire is incorporated into the fire support plan primarily to reinforce or augment artillery fires. Because of the inherent danger of nonadjusted close naval gunfire, final protective fires are not normally assigned to naval gunfire support ships.

c. Nuclear Fires.--(See chap. 3, sec. VIII.)

3421. ORGANIZATION FOR COMBAT

The battalion commander tentatively establishes his organization for combat early in his planning. However, as he continues to develop his scheme of maneuver, he may adjust his allocation of combat power as certain aspects of the defense are considered. When the commander has reached the stage in his planning where his scheme of maneuver is firm, he establishes a detailed organization for combat.

a. Employment of Tanks

(1) If tanks are available, their employment is integrated into the antitank defense plan. Some tanks may be employed laterally and in depth throughout the forward portion of the battalion area. In such a case, tanks are located in or near rifle platoon positions; desirably, tanks are mutually supporting.

(2) The major portion of the tank unit is normally held as a part of the reserve. It is desirable to employ a tank company(s) as additional control headquarters. The primary mission of the tank unit(s) in reserve is to support or make the counterattack. A secondary mission is adding depth to the antitank defense. Time permitting, defensive positions are reconnoitered and prepared.

b. Use of Engineers.--Elements of the division engineers may support infantry battalions in the defense by preparing and assisting in the preparation of important demolitions, laying certain minefields, and preparing and maintaining routes to include counterattack routes.

3422. LOGISTIC SUPPORT

In developing the plan of defense, the battalion commander considers the impact of logistic support on the mission. Particular emphasis is given to the location and security of the service areas, supply distribution points, evacuation points, traffic control, and provision of special supplies and equipment (entrenching tools, barbed wire, mines, etc.) required for the defense. The area defense is usually characterized by heavy expenditure of class V and light expenditure of class III; however, in the mobile defense, this may not hold true. Where a great amount of maneuver is anticipated, particularly in mechanized infantry units, provision must be made for adequate maintenance and class II supplies. In the defense, the logistic support areas (LSA's) are usually located farther in the rear than in offensive operations. This avoids undue congestion in forward areas and reduces the probability of loss of logistic support elements from a shallow enemy penetration.

3423. COMMUNICATIONS

a. To control the defense, the commander plans and ensures adequate communications with higher, lower, adjacent, attached, and supporting units. All means, including radio, wire, messenger, visual, and sound, are used to the extent practicable.

b. Advance planning and reconnaissance by communication personnel are essential in the defense. Actions and duties are similar to those

for the attack, but the communication system is generally more elaborate. All possible steps are taken to ensure uninterrupted operation.

c. The communication officer recommends the method of establishing and maintaining communications with the combat outpost. The communication system within the outpost is similar to that established by units on the FEBA.

d. Wire is a principal means of communication during defense. It is installed as rapidly as possible, and continuously improved during the conduct of the defense. Wire teams from the regimental communication platoon lay and maintain at least two wire lines from the regimental switchboard to the battalion switchboard. The battalion communication platoon lays two or more lines over different routes between the command posts of the battalion and all companies, and two or more lines to the elements of the headquarters and service company as required. It also lays wire to the battalion observation post and to adjacent units. Attached and supporting units are included in the wire system. Local telephones are installed as prescribed in the battalion SOP.

e. Radio communications are normally restricted for security reasons until contact has been made with the enemy. When adequate wire communications are available, radio nets are not used unless wire communications are interrupted.

f. Messengers are a primary means of communication during the defense. A scheduled messenger service is established.

g. Pyrotechnics and other visual signals requiring line-of-sight between observation posts and rear installations can be used to advantage in defensive actions. They are used in accordance with the COI and communication SOP (COMMSOP).

3424. ALTERNATE PLANS

The battalion commander plans for all foreseeable contingencies. He plans alternate and supplementary positions to ensure flexibility in his defense plan. Flexibility is also obtained by maintaining a reserve and by centralizing the control of fire support at the battalion level. Counterattack plans are prepared with the knowledge that they frequently may have to be adjusted to meet a set of circumstances different than originally envisioned.

3425. CONDUCT OF AREA DEFENSE

a. Security Forces.--Unless deception is an essential element of the defense, the attacking enemy is normally taken under long-range fire, including nuclear fires if appropriate, as early as possible. As he advances, he is taken under increasingly heavy fires by the covering force and, in turn, by the division security force (GOP) and the regimental security force (COP). Prior to the time that each of these security elements is forced to withdraw, they delay, deceive, and disorganize the enemy to the maximum. They normally do not become decisively engaged, but fight delaying actions to inflict maximum casualties on the enemy.

b. Forward Defense Forces.--When the combat outpost has accomplished its mission, or to prevent its capture or destruction, it withdraws. Long-range fires are placed on the enemy to cover the withdrawal. These fires

are continued on the enemy as he approaches the FEBA. If enemy tanks are employed, all available fires are delivered to force tanks to button up and separate them from the infantry. Small-yield nuclear weapons may engage small groups of tanks. Antitank mines and available air support are also used to the maximum. Artillery fires, to include chemicals, may be used on tanks to blind or destroy the crew and destroy accompanying infantry. If the enemy succeeds in launching an assault, final protective fires and all other available fires are placed on him. The decision to call for final protective fires is the responsibility of forward committed company commanders and is usually based on the request of the frontline platoon commanders.

c. Reserve.--(See par. 3428.)

3426. VARIATIONS OF THE AREA DEFENSE

a. Reverse Slope Defense

(1) General

(a) A reverse slope defense is a defense organized on that part of a slope which is masked by the topographical crest from enemy direct fire and observation.

(b) A battalion commander may adopt a reverse slope defense under certain conditions. He designs it to maintain control of the hill mass forward of the FEBA. Once the enemy gains the crest, the battalion loses part of the advantage offered by defending on the reverse slope position.

(c) A battalion commander may choose to conduct a reverse slope defense when:

1 The forward slope is untenable because of the intensity or accuracy of enemy fire.

2 The crest and forward slope offer little or no cover or concealment to the forward companies.

3 The forward slope has been lost or has not yet been seized.

4 Units on the flanks can cover the forward slopes by fire.

5 Terrain on the reverse slope affords better fields of fire than the forward.

6 It is necessary to avoid an unfavorable salient or reentrant.

7 The possession of the forward slope is not necessary for observation.

8 Adoption will deceive the enemy and contribute to tactical surprise.

(d) Use of a reverse slope defense has certain advantages, particularly if the enemy can be prevented from acquiring detailed information. Restrictions on enemy observation permit friendly forces to deceive him and thereby reduce the effectiveness of the enemy fires.

(e) In some situations, the terrain may require that one or two companies organize positions on a forward slope while other companies of the battalion are utilizing a reverse slope defense.

(f) Use of the reverse slope defense on occasions contributes towards the avoidance of a set pattern of defense.

(2) Advantages

(a) A crest forward of the FEBA limits enemy observation into the battalion positions, reduces effectiveness of indirect fires, and makes his direct fire weapons ineffective.

(b) The battalion can deliver surprise fire on the enemy as he crosses the crest forward of the FEBA.

(c) Until the crest is lost, forward companies have more freedom of movement because of limited enemy ground observation into their positions. Positions and obstacles can be improved and fields of fire cleared during daylight without the danger of enemy observation.

(d) A reverse slope may deceive the enemy as to the location and strength of the battle area.

(3) Disadvantages

(a) The greatest disadvantage of a reverse slope defense is the difficulty of maintaining the observation essential for effective fires.

(b) The battalion is unable to cover minefields and obstacles on the forward slope by direct fire from within the battle area.

(c) If the enemy gains possession of the crest, he can attack downhill.

(4) Organization of the Reverse Slope

(a) General Considerations

1 The battalion commander locates his forward companies where they can obtain surprise fire on the enemy as he crosses the skyline. The most important factor in locating the forward companies and platoons is taking advantage of good fields of fire between friendly positions and the crest. The battalion commander ensures that observed fires can be placed on the forward slopes by occupying security and observation positions on the forward slope. Observation of the forward slope may also be attainable from positions within the FEBA; i.e., from positions to the flank or from higher terrain in the battalion battle area. Other considerations that influence the organization of the battalion defense area are cover and concealment and the location of natural obstacles.

2 The FEBA should be within effective small arms range of the crest. However, it should be far enough in the rear of the crest so that fields of fire will permit the battalion sufficient time to deliver well-aimed fire on the enemy before he reaches the FEBA and to minimize effects of enemy fire. See figure 54 for an example of a reverse slope defense.

3 In other respects, organization of the reverse slope by the battalion is similar to that discussed in paragraph 3408.

(b) Employment of Weapons

1 Final protective fires are planned on the reverse slope in the same manner as in a forward slope defense.

2 Weapons from the Dragon missile platoon and tanks are used within the battle area on missions similar to those in a forward slope defense. Tanks are employed initially in hull defilade on the crest to cover the observation and security groups and to provide antitank and long-range fires to the front of the battle area.

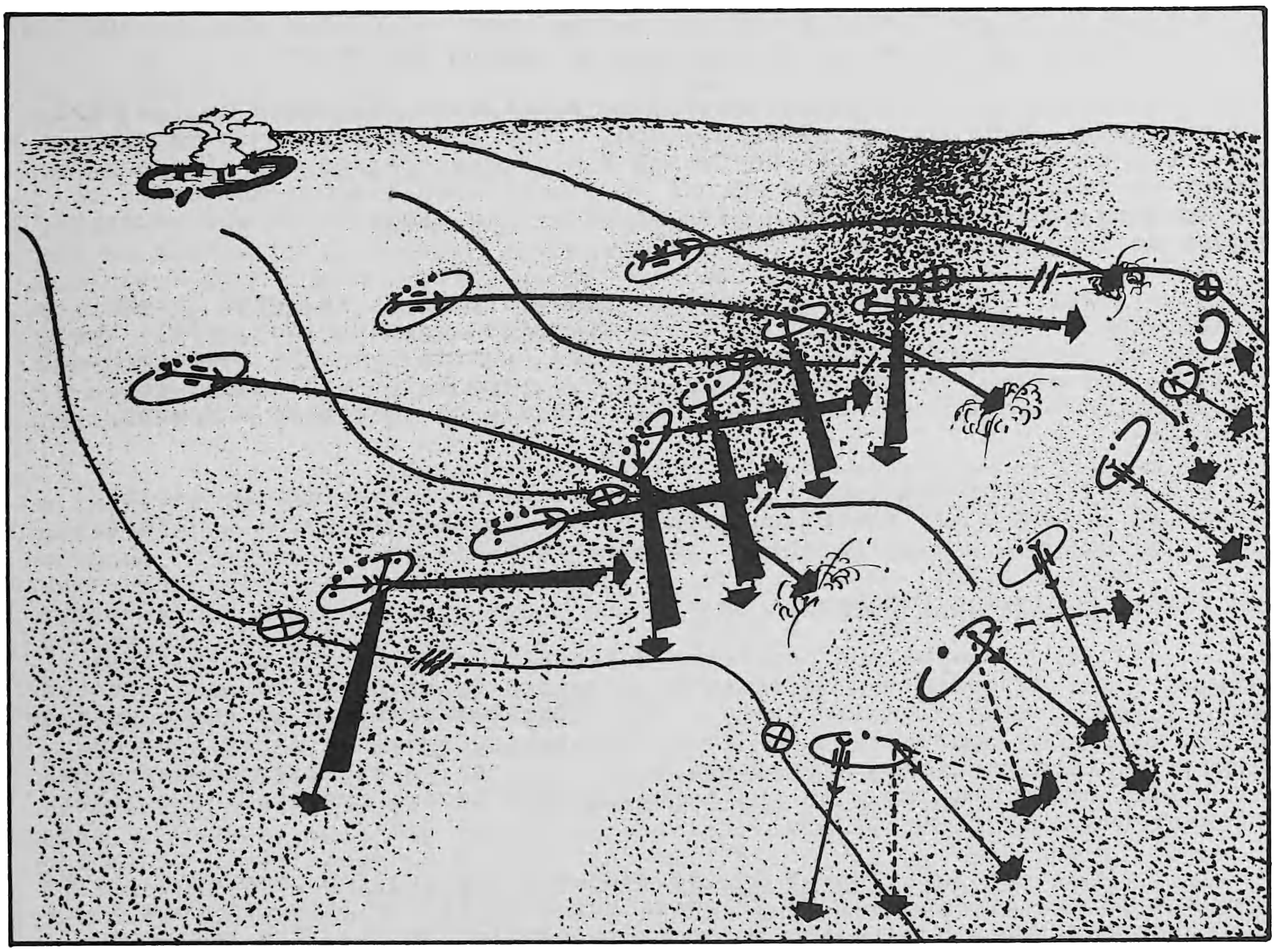

Figure 54.--Battalion Reverse Slope Defense.

3 Mortar and artillery final protective fires are placed on the crest to prevent its occupation and use by the enemy. Artillery and mortar targets are planned forward of the crest in the same manner as in a forward slope defense. These fires may be called for by the observation and security groups or may be delivered unobserved.

4 Fires within the battalion positions are planned as for other types of defense.

(5) Organization of the Forward Slope

(a) The organization of the forward slope is one of the key factors in the success of the reverse slope defense.

(b) The battalion commander positions observation and security groups on the forward slope. These are similar to outguards of a combat outpost. Their positions should be difficult to locate and they should include strong firepower. The battalion commander should endeavor to establish enough of these groups on the forward slope to accomplish the assigned security and observation, as well as missions to assist in local counterattacks. Machineguns and, where the terrain permits, Dragons can be included. If available, tanks can be employed to support the observation and security groups from defilade positions behind the crest.

(c) Obstacles, including minefields, are used to the maximum degree possible on the forward slope. They are effective in causing the enemy to become disorganized during the crucial period when a counterattack is launched against his forces on the forward slope. Obstacles on the forward slope are covered by the fires of the observation and security groups as long as possible.

(6) Counterattack Planning.--Elements to be included in the counterattack plan are similar to those discussed in paragraph 3428. The success of the reverse slope defense depends upon denying the topographical crest to the enemy. Counterattack plans are made which will clear the topographical crest. Counterattack plans should be rehearsed whenever possible.

(7) Forward Security Forces.--Security forces may be established as in any other battalion defense when conditions permit. Their size and location are as described in paragraph 3412.

b. Perimeter Defense

(1) General.--A perimeter defense is a variation of the area defense. In the perimeter defense, a battalion is disposed to meet attacks from all directions simultaneously. The frontages occupied by the companies on the perimeter approximate those of the area defense. A battalion may adopt a perimeter defense when operating alone, as in a helicopterborne or air landed operation, or when the battalion has become isolated from other friendly units by enemy action.

(2) Disposition of Troops.--When the battalion commander establishes a perimeter defense, he disposes the bulk of his force to form a perimeter and retains adequate reserves to provide depth. The perimeter consists of a series of mutually supporting platoon positions organized to take advantage of observation and fields of fire afforded by commanding

terrain. Natural obstacles, such as rivers, swamps, and similar obstacles, may be used to strengthen the defense from a given direction and allow the battalion commander to concentrate his forces on the most likely enemy avenues of approach. All elements and installations of the battalion are normally located within the perimeter. In disposing his units, there may be many variations dependent upon the expected direction of attack, terrain, and plans for offensive operations. However, in organizing a battalion perimeter, the fundamentals of defense are applicable.

(3) Employment of Weapons.--The machineguns of the rifle companies are normally employed on the perimeter. It is desirable to cover dangerous avenues of approach with a section of machineguns; however, where many avenues of approach exist, it may be necessary to employ them singly. Each machinegun located on the perimeter and in reserve is assigned a sector of fire and final protective fires.

(a) The 81mm mortars should be employed in a platoon firing position centrally located, if possible to do so. Final protective fires are planned for each mortar as part of the overall final protective fires. Firing data is computed for the platoon to fire all planned targets within range.

(b) The Dragon is employed in generally the same manner as in the area defense on dangerous avenues of armored approach leading into the perimeter. They are employed by sections whenever possible. To ensure adequate coverage of the entire perimeter, it may be necessary to employ some of them as single weapons.

(c) An artillery battery as well as other artillery units may be available to support a battalion which is established in a perimeter defense. When the enemy situation permits, it is desirable to have the supporting artillery battery so located that it can provide close defensive fires for the entire perimeter. However, when the battalion is operating independently or is separated a considerable distance from other forces, it may be necessary to position the supporting artillery unit within the perimeter to protect it from enemy action.

(d) Tanks may be held in an assembly area or placed in primary firing positions, preferably in depth. If held in an assembly area, firing positions and routes to these positions are prepared in advance. In either method of employment, supplementary positions for tanks should be prepared on all avenues of approach. Tanks should be prepared for rapid infantry-tank team employment to support counterattacks to restore the perimeter.

(4) Fire Support Planning.--Fire support planning for a perimeter defense is basically the same as in other area defenses; however, the problem is complicated by the necessity for planning fires to engage an enemy attack from any direction. (See fig. 55.) Consideration may be given to assigning artillery final protective fires to each gun or to pairs of guns. However, this may result in the inability to rapidly mass fires in one given area. Another significant limitation may be that short, close, indirect artillery fires are not possible because of minimum range limitations. Coordination of the fires of all infantry weapons, tanks, artillery, naval gunfire, and close air support is carefully planned and expressed in the battalion fire support plan. This includes the use of antitank weapons, closely coordinated with the barrier plan.

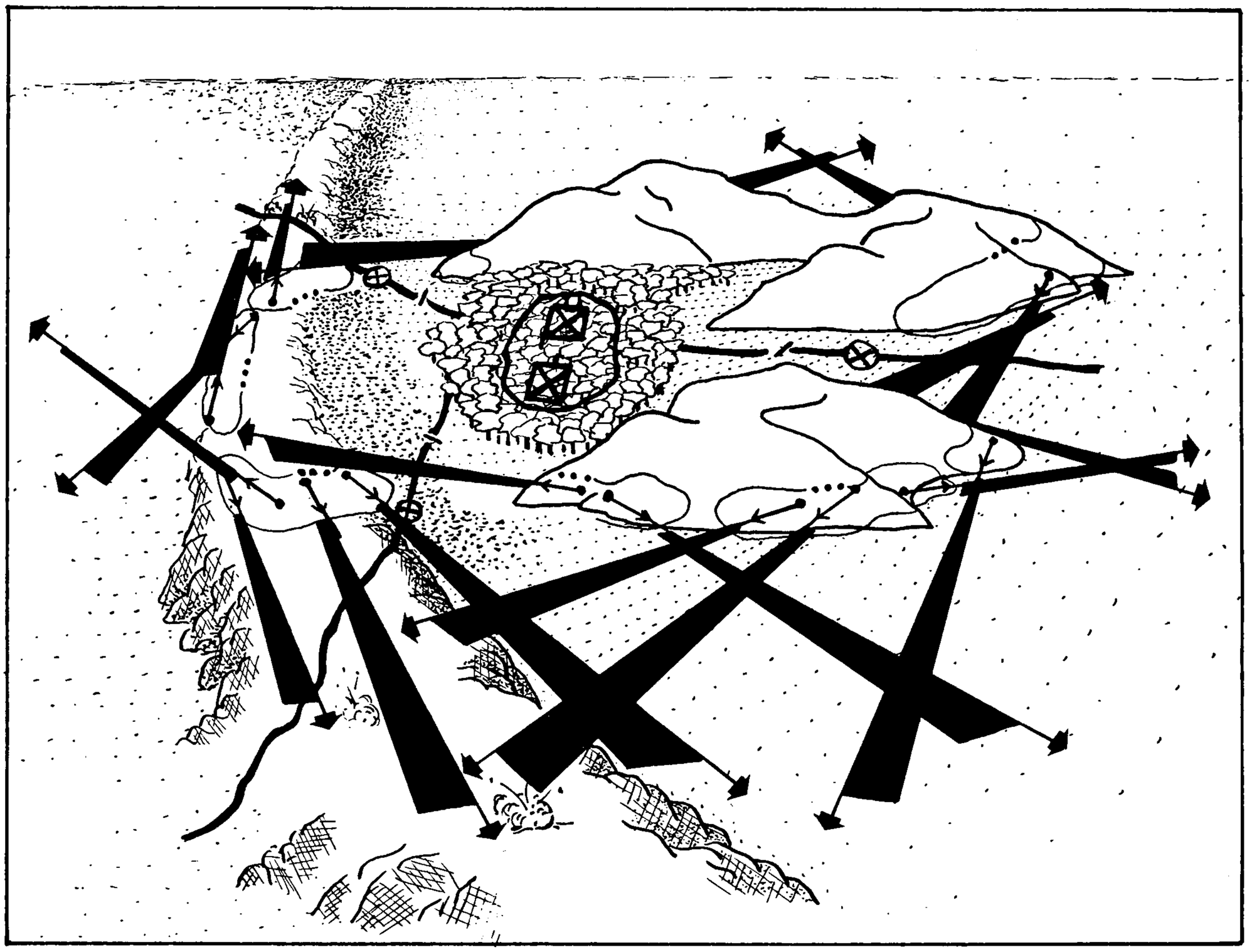

Figure 55.--Schematic Representation of Fire Support Plan in Battalion Perimeter Defense.

(5) Barrier Planning.--Natural and artificial obstacles are utilized to the maximum in organizing the battalion perimeter. Antitank and warning devices are used. The battalion barrier plan includes detailed instructions to the companies for the construction and location of barriers. Sufficient lanes and gaps must be left in barriers to permit movement of friendly patrols and counterattack forces. Obstacles are covered by fire to obtain maximum effectiveness.

(6) Security.--Active security measures are employed to gain early information of the enemy and provide warning of his approach. Patrols are dispatched both day and night to gain and maintain contact with the enemy. Patrol plans are prepared in detail and carefully coordinated with fire support and barrier plans. Outguards are established to cover all avenues of approach. Outguards vary in strength from a few men to a reinforced platoon. Forward observers for mortars and artillery are located with the outguards. When sufficient numbers of artillery and mortar observers are not available, infantrymen with suitable training and communication equipment perform their missions. The mission of these outguards is to provide early warning, prevent close observation of friendly

positions, and within their capability, delay and disorganize the enemy. Outguards in a particular area are withdrawn into the perimeter when the enemy attacks it in force.

(a) Observation aircraft and helicopters are utilized to the maximum both day and night to give early warning. Of particular importance is the use of aircraft at dawn to detect any enemy movement in surrounding areas. Aerial reconnaissance is closely coordinated with patrols.

(b) Each company establishes local security as in any area defense. In addition to establishing observation and listening posts, some troops may be shifted from the reserve to cover gaps between units on the perimeter at night and during other periods of reduced visibility.

(c) To supplement these active measures of security against infiltration and surprise attack, extensive use is made of all the passive means available, such as wire, boobytraps, illuminating devices, infrared equipment, seismic intrusion devices, and the battalion surveillance radars.

(d) When the enemy withdraws, contact is maintained by patrols. Security measures are reestablished.

3427. RESERVE BATTALION IN THE AREA DEFENSE

a. General.--A reserve battalion of a regiment in area defense may be assigned the following missions:

(1) Limiting penetrations. The regimental commander designates company size blocking positions from which the reserve battalion can limit major penetrations, canalize the enemy, and provide all-round protection for the regimental battle area.

(2) Occupying flank positions. When the regiment has an open or lightly held flank, positions are designated and organized from which the reserve battalion can protect the flank or extend the battle area to counter enemy flanking actions.

(3) Counterattacking, based on a regimental plan.

(4) Preparing a rear battle position and organizing the defense similar to that organized on the FEBA.

(5) Organizing and occupying the GOP or COP.

(6) Relieving a forward unit or replacing a unit rendered ineffective by enemy action.

(7) Defending against airborne and helicopterborne attack, guerrilla action, and infiltration and/or performing other rear area security missions.

b. Organization.--Companies of the reserve battalion are dispersed laterally and in depth throughout its area of responsibility. Supplementary positions are prepared to complete the defense in depth on all major avenues of enemy approach and to furnish all-round defense. An attempt is made to have the companies mutually supporting. Companies may be echeloned to protect exposed or lightly held flanks. In organizing the area, care is taken

to prevent dispersing elements of the battalion to the extent that they cannot accomplish their blocking mission. When enemy contact or attack within the area of the reserve is not probable, companies of the reserve battalion are dispersed throughout the area to prepare positions. Care is taken to ensure that they are not so dispersed that they cannot move to their primary position in time to perform their mission of limiting the penetration or counterattack.

c. Fire Support Planning.--In developing fire support, the reserve battalion gives first priority to its own companies. As a second priority, it provides fire support for assistance tó forward battalions. Under exceptional circumstances and upon approval of the higher commander, the mortars of the reserve battalion may be moved to the vicinity of a forward battalion to support it. They withdraw to their primary positions in time to ensure that their fires can support the reserve battalion when needed.

d. Tanks.--If the reserve battalion has tanks attached, they are employed to counterattack, to provide antitank defense in depth, and to otherwise reinforce the battalion. They may be held in an assembly area or placed in prepared positions.

3428. COUNTERATTACKS

a. General

(1) A counterattack is a limited objective attack designed to destroy the enemy within the penetration, to regain lost portions of the battle area, and under certain circumstances, to restore positions for security elements forward of the battle area. All available combat elements not otherwise engaged participate in the counterattack. The reserve is normally the maneuvering force and is supported by all weapons of the forward units. Plans are sufficiently flexible, however, to include reserve elements of units outside the area of penetration in the maneuvering force when this favors the overall accomplishment of the mission. A single, coordinated blow is delivered by as large and strong a force as the situation and the terrain permit. The reserve is committed as a unit unless the terrain or threats in other areas prevent it. Adjacent friendly positions are avoided where practicable, in order to take advantage of fire support from those areas and to avoid disrupting those areas. All friendly elements located within the penetration are placed under the maneuvering force commander regardless of the original chain of command.

(2) The commander of a forward battalion, assisted by his staff, prepares counterattack plans for each part of the battalion defense area which he estimates could be penetrated. Counterattack plans are prepared in advance from the viewpoint of terrain features which, if lost, would threaten the area. Normally, high ground offering good observation and dominating avenues of approach into the position have highest priority. A counterattack plan should be rehearsed within the selected penetration or on similar terrain. If rehearsals are impractical, as many subordinate unit commanders as possible are oriented on the ground, and preliminary plans are explained to them on the site. Representatives from attached and supporting units as well as the temporary reserve are present at rehearsals, and maximum coordination is effected by all personnel concerned.

b. Counterattack Planning

(1) Preparations

(a) Counterattack plans are prepared by battalions and higher echelons. A forward company usually employs its reserve platoon in a blocking role. A forward company rarely launches a counterattack, and in those instances when it does, the counterattack is in the nature of a quick assault to mop up minor penetrations of its forward platoon positions.

(b) A forward battalion prepares counterattack plans which prescribe the mission of:

1 The forward companies. They are normally the units which block the penetration or continue their present mission in an adjacent area.

2 The reserve companies. They are normally the maneuvering force which actually executes the battalion counterattack. With two companies in reserve, one may block or contain a penetration, while the other counterattacks.

3 The 81mm mortar platoon and antitank assault platoon.

4 Attached or supporting units.

5 The temporary reserve.

(c) A reserve battalion commander in the battle area prepares counterattack plans to implement the regimental counterattack plans. In this instance, the reserve battalion normally is the maneuvering force of a regimental counterattack, and its counterattack plan is similar to a normal plan of attack. Planning for the execution of the counterattack should include a rehearsal with all participating combat and combat support units.

(2) Elements of Counterattack Plans

(a) Objective.--The objective assigned to the maneuver force usually is a key terrain feature within the penetration, the seizure of which is essential to the elimination of the penetration and to the success of the defense of the area.

(b) Direction of Attack.--The direction of attack should be the one most favorable. When nuclear fires are not used in support of the counterattack, the attack is usually designed to strike the enemy in the penetration from the flank and across the base of the penetration.

(c) Line of Departure.--To ensure coordination, a line of departure is designed.

(d) Assembly Areas and Routes to Them.--If required to ensure coordination and control, the unit commander designates assembly areas and routes to them.

(e) Composition of the Maneuvering Forces.--The counterattack plan designates the maneuvering force. The entire reserve is designated, unless the terrain prohibits, or unless employment of a portion of the reserve on other missions is contemplated or has been restricted by higher headquarters.

(f) Designation of a Force to Block the Enemy Penetration.--The unit responsible for blocking the enemy penetration is designated. Usually this is the unit in whose area the assumed penetration is located.

(g) Designation of Missions to Other Units.--Units, or elements not designated as part of the maneuvering force or the blocking force, are directed to continue present missions and support the counterattack by fire.

(h) Fire Support.--All available weapons are used to support a counterattack. The fire support planning includes:

1 Fires to support the maneuvering force.

2 Fires across the base of the penetration to destroy the enemy forces attempting to enter or leave the area of penetration.

3 Fires within the penetrated area.

(i) Use of Attached and Supporting Weapons.--Fires from supporting units are carefully coordinated and planned and are used to the maximum. Attached units such as tanks are integrated into the counterattack plans to give the counterattack maximum shock action and firepower.

(j) Communications.--Normal communications are used to control the counterattacking force and the weapons that support it.

(k) Actions After Reaching the Objective.--The commander generally defers final decision on the unit that is to defend the regained area until the entire situation is clear. He may specify alternatives to be put into effect on his order.

(l) Temporary Reserves.--A temporary reserve is designated from available personnel until a new reserve is organized. The commander assigns missions and designates a commander for the temporary reserve. Normally, the organization of a temporary reserve is included in the unit SOP.

c. Decision to Counterattack

(1) If the enemy is successful in making a penetration, the battalion commander makes an estimate of the situation and considers carefully the following questions:

(a) Has the enemy been slowed or stopped?

(b) Have all available fires been employed without destroying the enemy?

(c) Are reserves and supporting fires adequate to support the counterattack?

(d) Has key terrain been lost or threatened that jeopardizes the accomplishment of the mission?

(2) If answers to the above questions are affirmative, the situation is generally favorable for counterattack. However, they need not all be affirmative. An estimate is the decisive factor and a consideration of these questions is not a substitute for an estimate. The decision to launch a counterattack is based upon a reasonable chance of success. The battalion commander launches a counterattack quickly and aggressively, using all available forces. The next higher headquarters is notified once the decision is made to counterattack. Although a defender must be always aggressive in the conduct of the defense, he does not dissipate his available forces in counterattacks that have little likelihood of success or against minor enemy successes.

d. Conduct of the Counterattack

(1) General.--The counterattack is a decisive element of defense. Its success depends largely upon surprise, boldness, and speed of execution. (See fig. 56.)

(2) Speed of Execution.--The maneuvering force is prepared to attack as soon as it receives the orders. The counterattack strikes the

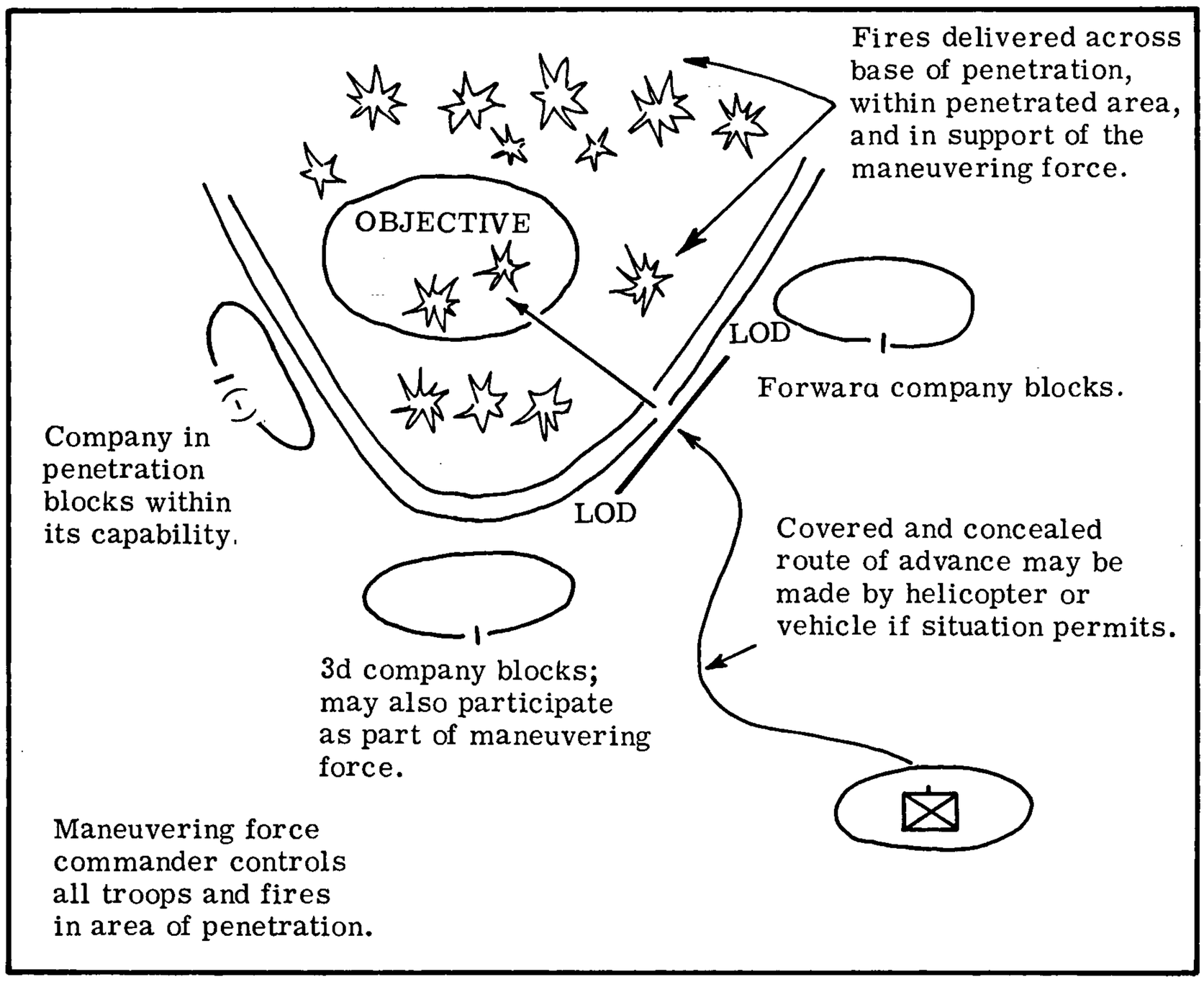

Figure 56.--Counterattack by Battalion Reserve.

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enemy when he has lost his momentum and his coordination, and is not yet disposed to defend his gains. This period is relatively short and critical.

(3) Action After Counterattack

(a) After a successful counterattack, the maneuvering force does not usually advance beyond the regained position. Contact with the enemy is maintained by patrols and observation. The maneuvering force normally occupies those defense areas necessary to ensure integrity of the battle area. Adjustments are made along the FEBA, and a new reserve is constituted.

(b) In a situation in which a reverse slope position has been penetrated, it is essential that the counterattack force regain control of the crest of the hill mass forward of the FEBA if the reverse slope defensive position is to be restored.

(c) When the counterattack fails to take the objective and to destroy the penetrating enemy force, troops dig in and hold the line or area seized. Higher commanders are informed and the position is held until reinforcements are made available.

3429. ROLE OF THE INFANTRY BATTALION IN THE MOBILE DEFENSE

a. General

(1) The primary purpose of a mobile defense is to destroy the enemy. Minimum forces are positioned in the forward defense area to warn of impending attacks and either block or impede the enemy advance, or canalize it into preselected killing zones. Killing zones are located along favorable enemy avenues of approach. They are selected on the basis of adequate natural obstacles, sufficient size to allow employment of all supporting fire, routes for moving supporting fires, and routes for maneuver of the reserve force. The reserve force is made up of the bulk of the mobile power available and is positioned to take offensive action at the time and place of the defender's choosing. Defensive sectors in a mobile defense are assigned by means of boundaries and are usually more extended in depth than in an area defense, thus allowing the commander maximum flexibility in positioning his forward defense forces, selecting killing zones, and locating reserve forces. The commander is normally assigned an area or line forward of which he must stop the enemy advance. Although the objective of the mobile defense is destruction of the enemy rather than retention of specific terrain features, proper use of terrain and organization of critical localities are essential. Only by taking full advantage of terrain in positioning of forward forces can the necessary economy of force be achieved.

(2) Due to its lack of size, transportation, and fire support, the infantry battalion alone may not conduct all aspects of a mobile defense, but it may participate as a part of the forward defense force, the reserve force, or the security force.

b. Plan of Surveillance

(1) General.--Because of the wide intervals between strongpoints, commanders must place increased emphasis upon reconnaissance. As in an area defense, the security forces of a mobile defense may include aviation

and a covering force. Close coordination must be maintained between the strongpoints and the security forces.

(2) Observation Posts.--Each forward strongpoint establishes a series of observation posts with each observation post organized as an outguard. They vary in strength from a few men to a reinforced squad. Forward observers for mortars, artillery, naval gunfire, and FAC's may be included. When sufficient numbers of artillery and mortar observers are not available, infantrymen with suitable communication training and equipment may perform these missions. The mission of these observation posts, in addition to providing supporting fires, is to provide early warning; prevent close observation of friendly positions; delay, deceive, and disorganize the enemy; and assist units which engage in raids and patrol activity by furnishing guides and observation throughout their area. Observation posts are withdrawn into the strongpoint when the enemy attacks in force.

(3) Contact Points.--Contact points designated by the regimental commander are normally located on the edge of an area of surveillance along routes leading into the strongpoint. At these points, coordination is effected between adjacent units for movement of units, patrols, and vehicles. The battalion commander may also designate contact points for coordination of elements operating within his area of surveillance.

(4) Patrols.--Emphasis is placed on aggressive and continuous patrolling to ensure the security of a strongpoint. Maximum use is made of mobile reconnaissance elements throughout the strongpoint area of surveillance, and foot patrols operate between observation posts, contact points, and roadblocks. Patrol plans are prepared in detail and carefully coordinated with the fire plan and barrier plan. These plans are supplemented by the use of helicopters and aircraft, during both day and night, to cover the area of surveillance. They are employed at dawn in conjunction with foot patrols to detect any enemy infiltration which may have occurred during the hours of darkness. When the location of dominating terrain features does not permit adequate coverage of the area of surveillance, platoon-size patrol bases may be established to furnish security for patrols, forward observers, and FAC's. Patrol bases are withdrawn into the strongpoint in the event of a strong enemy attack.

(5) Fire Support Planning.--The fire plan provides for the capability of bringing the enemy under fire anywhere within the strongpoint area of surveillance and forward of this area. Plans are made to mass all available long-range fires on dangerous avenues of approach and killing zones and to cover the withdrawal of security elements. Fires should not be delivered into another area of surveillance without prior clearance from the unit responsible. Continuous collecting and processing of information is expedited so that a remunerative target can be recognized and fires delivered against it before the target disappears.

(6) Barrier Planning.--Barriers are constructed to delay the enemy and to canalize him into killing zones where maximum casualties may be inflicted by nuclear or nonnuclear fires, by reserve forces, or by a combination of fire and maneuver. Barrier plans are coordinated at the regiment or higher level. Artificial obstacles, such as mines, warning devices, antitank ditches, and wire, are employed to reinforce and extend natural obstacles. Safe lanes are left in the barrier system to permit maneuver by forces from the forward strongpoints and offensive action by

the mobile reserve. Wide intervals between strongpoints may prevent complete coverage of the obstacles by small arms fire. Roadblocks are normally established on all roads leading into the strongpoint area to delay the advance of the enemy. Fire plans must be coordinated with the barrier plans to provide coverage by mortars, artillery, nuclear weapons, and supporting air. The strongpoint commander is responsible for observation of barriers within his area of surveillance.

c. Forward Defense Area.--The forward defense area is that portion of the division sector in which the forward defense positions are located. Normally, the size of the forward defense area is based on considerations such as the area required by units to accomplish their missions, the capability of the units to prevent infiltration, and their ability to maintain surveillance over the area.

(1) Strongpoints.--A strongpoint is normally a defensive position organized by a battalion or company in the forward defense area for all-around defense. Its mission is to slow down, divert, repel, or destroy the advancing enemy. It provides information from which the location of the enemy's main attack, strength, and direction of advance can be determined. It may serve as a pivot maneuver for offensive action or as a base for security and reconnaissance forces. Battalion or company strongpoints employ formations of the area defense or one of its variations. Although positions are primarily oriented to defend against attacks from the front as in the compact or extended positions defense, strongpoint reserves must prepare nummerous supplementary positions to which troops may be moved rapidly to meet a threat from any direction. Maximum emphasis is placed on the fundamentals of all-round defense and flexibility. Strongpoints may also employ a perimeter defense or one of its variations.

(2) Conduct of Strongpoints

(a) Companies or battalions organizing a strongpoint employ some variation of the area defense, using one of the formations described in paragraph 3408 modified as required.

(b) If the mission is to block or impede, it may adopt a formation suited to hold specific terrain. It must be capable of carrying out its mission even though it is cut off for limited periods.

(c) When the mission is that of canalizing enemy movement, the strongpoint is organized where it can maintain observation and place fire over the approaches into its position. The strongpoint organizes a series of blocking and delaying positions throughout its area of responsibility in accordance with the overall plan for influencing the movement of the opposing force. When required by its mission, the battalion conducts a delaying action.

(3) Employment of Tanks.--Normally, insufficient tanks are available to the infantry battalion to permit piecemeal commitment to the strongpoint defense. If limited objective attacks are conducted and if tank resources allow, they may be so employed. When supporting infantry in the defense of strongpoints, tanks perform the following missions:

(a) Deliver long-range direct fire of an antitank or antipersonnel nature to destroy, delay, or disrupt the enemy.

(b) Execute limited objective attacks in support of infantry units.

(c) Cover by fire the withdrawal of strongpoints.

d. Reserve Force

(1) The reserve force is comprised of the remainder of the combat units of the division not employed in the forward defense area, along with other combat units that may be attached to the division.

(2) Infantry battalions of the reserve force may be required to develop blocking positions although these positions are not normally occupied. When required, they establish defensive positions as previously discussed. Normally, battalions occupy assembly areas near blocking positions, taking special precautions to remain concealed from enemy air and ground reconnaissance. Battalions in the reserve force area are responsible for their own security as well as for maintaining surveillance over designated localities.

(3) The commander of a battalion of the reserve force prepares necessary plans for employment in accordance with the directives of the reserve force commander. He reconnoiters possible routes over which his battalion may move as well as the area in which he may be committed. He coordinates with other elements of the reserve force.

(4) The infantry battalion as part of the reserve force must always be oriented for employment in an offensive role even though it may be assigned the additional mission of preparing blocking positions. It remains concealed, taking advantage of all available cover and concealment. The procedures, tactics, and techniques described in section III are also appropriate.

(a) The bulk of the available tank forces will normally be placed in support of the infantry unit that comprises the reserve force; the employment of striking force tanks is similar in every respect to normal offensive action. Since the reserve force is the decisive unit in the mobile defense, the utilization of armor will provide a greater degree of mobility, firepower, and shock effect to the supported infantry unit. Under certain conditions, infantry moved to attack positions by helicopter can obtain a high degree of surprise and effectively complement the shock effect of the tank units.

(b) See FMFM 9-1, Tank Employment/Antimechanized Operations, for further information on tank utilization in the mobile defense.

e. Security Forces

(1) Security forces in mobile defense may include aviation and reconnaissance units furnished by division and force. Though highly desirable, a general outpost may not always be established by a division since this requirement may substantially reduce the capability for accomplishing all aspects of the mobile defense. When a general outpost is not employed, the functions of reconnaissance and security forces are emphasized.

(2) Battalions in the forward defense area provide for their own local security and maintain surveillance over approaches leading into

the position. Patrol bases may be established when the battalion area of responsibility for surveillance is large.

(3) Battalions of the reserve force, because of the wide intervals between other elements of the reserve force, must be particularly alert to enemy units which may infiltrate into the defensive area. The battalion provides for its own local security. Intervening gaps may be covered by means of helicopterborne patrols. The battalion may also be called upon to provide detachments for reconnaissance and security missions by the reserve force commander. The mobility and flexibility provided by helicopterborne infantry units will enhance the battalion's capability to perform these missions.

f. Variations.--Because of the nature of initial operations ashore, the division seldom employs all aspects of the mobile defense as described in the foregoing paragraphs. The commander landing force overall plan of defense, however, may embody many of these characteristics.

3430. DEFENSIVE OPERATIONS OF A BATTALION SEPARATED FROM FRIENDLY UNITS

a. General

(1) When a battalion is operating at a distance from other friendly units, its mission usually involves seizure and defense of a specific terrain objective, the destruction of enemy within a specific area, or a combination of the two.

(2) The fact that a battalion is conducting operations while physically separated from friendly ground forces makes it mandatory that the battalion be capable of defending itself from any direction. The assigned area may frequently be too large to be physically occupied, and adequate observation and surveillance of it may not be possible from any one battalion defensive position. There is also a necessity for sufficient space to maneuver and means for acquiring targets. Therefore, a combination of offensive and defensive maneuvers should be employed to control the area. The actual area may be delineated and control simplified by assignment of a tactical area of responsibility (TAOR).

(3) In operations within a TAOR, all companies may be committed to a sector of defense or security mission. In the event enemy action threatens control of the TAOR, it may become necessary to designate the least committed company as the reserve.

(4) In order to operate independently or semi-independently, the battalion should be suitably reinforced. Usually independent operations require assignment of reinforcing or supporting units as follows:

(a) Additional means of mobility, preferably helicopters.

(b) Reconnaissance units.

(c) Increased fire support means (to include nuclear fires when the situation allows).

(d) Maximum reliance upon Marine and naval aviation for day and night support.

(e) Combat support and combat service support units to ensure logistic self-sufficiency.

b. Organization of Defense.--The type or variation of defensive formation adopted depends upon the mission, size of the area assigned, terrain, enemy capabilities, and forces available.

(1) When the mission calls for the seizure and defense of a specific terrain objective, the location and form of defense utilized must provide for holding that objective.

(2) When the mission calls for the destruction of the enemy within the TAOR and the establishment of control over it (with no specific terrain objectives assigned), the battalion's principal defensive position is located where it can best accomplish its assigned task. It may be desirable, as a deception measure, to occasionally move the defensive positions.

(3) It is probable that certain elements of both basic types of defense will be used in a TAOR. The area type defense usually is used to control physical objectives and for the protection of the area where the battalion remains for any period of time. At the same time since the assigned area usually cannot be controlled from any one position, the situation may take on some aspects of a small scale mobile defense. Defensive operations against enemy airborne or helicopterborne forces would probably rely on a mobile reserve to destroy the enemy. (See fig. 57.)

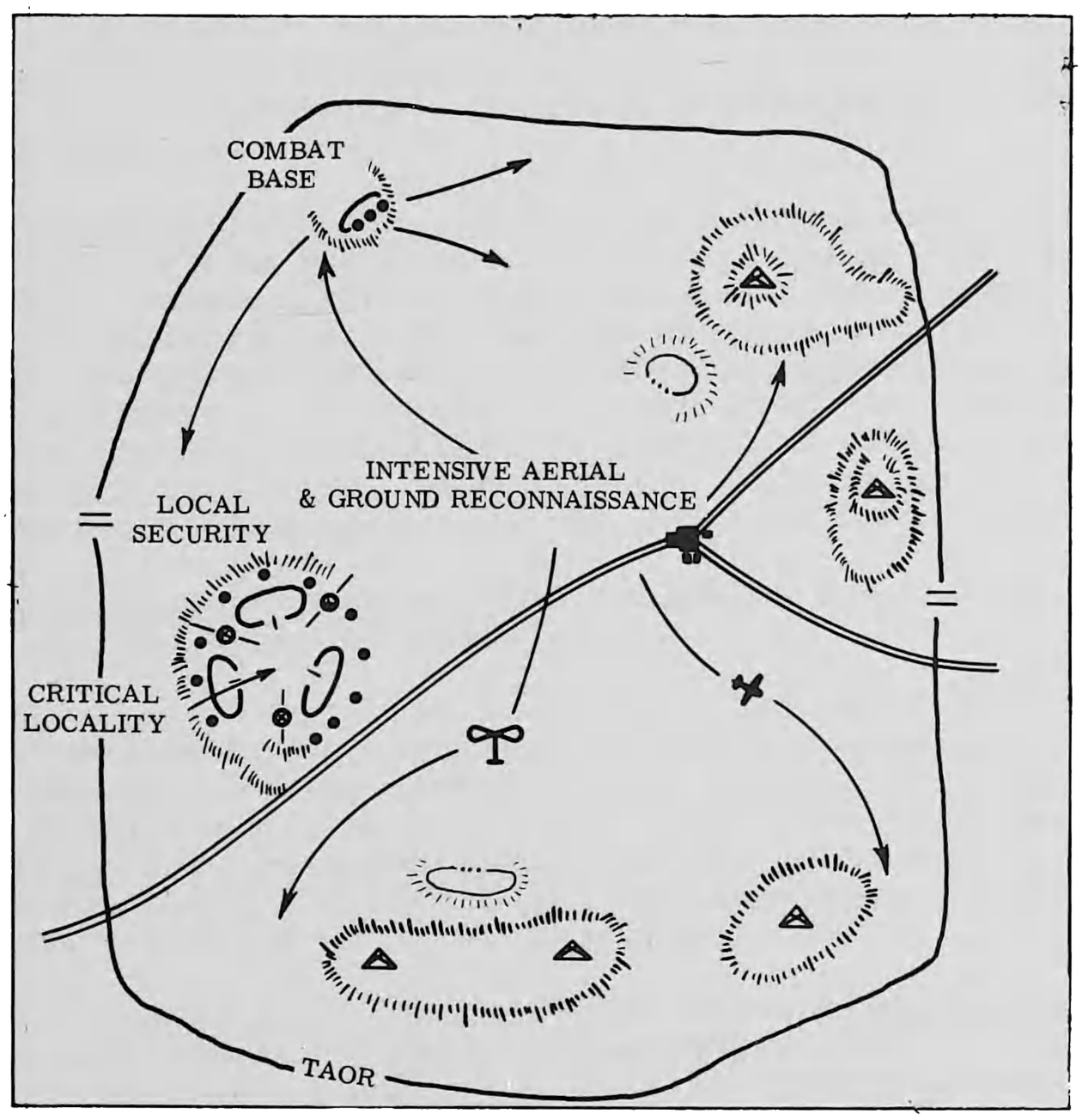

Figure 57.--Defensive Operations of a Battalion Separated From Friendly Units.

c. Security, Reconnaissance, and Surveillance.--Since the battalion does not employ a combat outpost, a greater use is made of local reconnaissance and security forces. When operating at a distance from friendly units, the ability of the battalion to perform its mission is directly influenced by its reconnaissance and surveillance activities.

d. Fire Support

(1) Planning and coordination of fires for the immediate defense of the battalion positions are conducted in a manner similar to that discussed in paragraph 3426.

(2) Fires may not be delivered into a TAOR from outside without permission of the TAOR commander. Normally, units operating within a TAOR may take under fire targets of opportunity outside the TAOR unless restrictions are placed by higher authority. The responsibility for delineation of such restrictions rests with the commander assigning the TAOR. Long-range fire support is furnished by Marine or naval aviation. When their use is authorized, nuclear fires may be employed. When flying conditions are restricted, long-range fires may be provided by artillery, rockets, or missiles within range of the target located in the TAOR.

Section V. RELIEF OPERATIONS

3501. GENERAL

a. Definitions.--A relief operation is the replacement of one unit by another. It may be used to conserve the combat power and effectiveness of the element being relieved, to ensure maintenance of the initiative in a tactical situation, or as part of the tactical plan. The operation may take the form of a relief in place, a passage of lines, or a withdrawal through a rearward position. These terms are defined in North Atlantic Treaty Organization Standardization Agreement (STANAG) 2082 as:

(1) Relief in Place.--A combat operation in which, by direction of higher authority, all or part of a unit is replaced in a combat area by the incoming unit. The responsibilities of the replaced elements for the combat mission and the assigned zone of operations are transferred to the incoming unit. The incoming unit continues the operation as ordered.

(2) Passage of Lines.--An operation in which an incoming unit attacks through a unit which is in contact with the enemy. Subunits of the unit being passed through remain in position until their fires have been masked, at which time they may undertake another mission.

(3) Withdrawal Through a Rearward Position.--An operation in which a unit effecting a retrograde movement (withdrawal) passes through the sector of a unit occupying a rearward defensive position. See paragraph 3706 for details.

b. Related Definitions.--A closely related definition contained in STANAG 2082, appropriate for inclusion at this point, is passage of command: the outgoing unit commmander is responsible for the defense of his assigned sector until command passes. The moment when command is to pass is determined by mutual agreement between the two unit commanders unless directed by higher headquarters. It normally occurs when the frontline subunit commanders have assumed responsibility for their sectors and the incoming unit commander has sufficient communication facilities in operation to exercise control over his entire sector (applicable to relief in place only).

c. Basic Considerations.--The following are common to, and require coordination in, all types of relief:

(1) Plans.--Preparation of detailed plans for the relief and their close coordination is required between all echelons of the relieving and the relieved units. The incoming unit becomes thoroughly familiar with the existing defensive plans, including fire plans, barrier plans, and other pertinent plans. Liaison personnel are exchanged to facilitate exchange of information. The unit being relieved should leave liaison personnel with the relieving unit, if practicable.

(2) Transfer of Command.--The time or circumstance under which the relieving unit commander will assume responsibility for discharging the mission of the element being relieved is clearly established.

(3) Reconnaissance.--Arrangements are made for a thorough reconnaissance, in daylight if possible, by commanders and staff officers

of the relieving unit. Reconnaissance should include, when appropriate, an inspection of existing defensive installations; relief routes; entrucking, detrucking, and turnaround points; weapon positions; and administrative installations.

(4) Movement Control.--Arrangements between the relieving and the relieved units are made for the control of units moving into and out of the area. Coordination includes:

(a) Routes to be used and priorities for their use.

(b) Responsibility for traffic control.

(c) Location of entrucking, detrucking, and turnaround points.

(d) Provision for guides.

(e) Common use of transportation.

(5) Intelligence.--The unit being relieved transfers to the relieving unit all information and intelligence concerning the enemy and the area of operations. If additional information is required by the relieving unit (e.g., prior to an attack), the unit being relieved or passed through should obtain such information.

(6) Fire Support.--Supporting artillery and weapons of the unit being passed through fire in support of the unit executing the passage. Fire support elements of the unit making the passage (or relieving the other unit in place) may take positions in rear of the unit being passed through (or relieved in place). In either case, all fires delivered in the zone are controlled through the headquarters of the commander responsible for the zone.

(7) Transfer of Responsiblity for Minefields.--A report of transfer is a written report which transfers the responsibility for a minefield from the commander of a unit that is responsible for the field when the unit is relieved, to the relieving unit commander. A report of transfer must be signed by both the relieved and relieving commanders and must include a certificate stating that the relieving unit commander has been shown, on the ground, or otherwise informed of all mines within his area of responsibility, and that he assumes full responsiblity for such mines. The report of transfer is forwarded to the next higher commander having authority over both the relieved and relieving unit commanders.

3502. RELIEF IN PLACE

a. Principles

(1) Relief operations must be executed in an expeditious and orderly manner.

(2) Units in forward combat areas are normally relieved at night or during periods of reduced visibility.

(3) Very close cooperation and coordination of plans is necessary between the commanders and subordinates of both the incoming and outgoing units.

(4) Detailed prior reconnaissance by the incoming unit is essential.

(5) The incoming unit must fit into and accept the general defense plan of the outgoing unit until passage of command.

(6) During the relief, to preserve secrecy, normal patterns of activity in a defense sector should be maintained.

(7) Every effort must be made to effect the relief without weakening the tactical security of the position and by offering the least profitable target for attack by nuclear weapons.

(8) Units of the supporting arms normally should not be relieved at the same time as the infantry units they support.

b. Planning the Relief.--The order directing the relief should specify, as a minimum, the time for commencing and completing the relief and priorities for use of routes involved. It may also specify the sequence of relief. In addition to the items for coordination in all reliefs, listed in subparagraph 3501c, the following items receive emphasis in planning for a relief in place:

(1) Sequence of Relief.--A relief in place is executed in stages in order to ensure the most effective defense during the relief. Reserves may be relieved first, followed by relief of forward elements or vice versa. In determining the sequence of the relief, commanders should consider:

(a) The subsequent mission of the unit that is conducting the relief.

(b) The strength and combat efficiency of the unit presently in the forward defensive area.

(c) The capability of the enemy to detect and react against the relief.

(d) Characteristics of the area of operations.

(e) The need to vary the pattern of relief.

(f) Size and type of elements involved in the relief.

(g) The requirement to retain secrecy.

(2) Secrecy in a Relief.--To maintain secrecy, which is essential in a relief, reconnaissance is held to the minimum in comparison with normal activities. Reconnaissance of the position should be performed in the vehicles or aircraft of the unit being relieved. Relief operations should be conducted during periods of reduced visibility. The tactical situation usually dictates whether the relief is made during daylight or darkness. In some instances, the relief may be conducted over a period of more than one night. Reliefs at battalion level in daytime are avoided if possible; however, smoke may be used to conceal a daylight operation. The relief is conducted as rapidly as possible, consistent with secrecy and control. During the relief, normal activities are continued including supporting fires, radio traffic, vehicular traffic, radar employment, and other activities. The outgoing battalion furnishes security and surveillance during

the conduct of the relief. No mention of the relief is made in the clear over electrical means of communication.

(3) Exchange of Equipment.--When there is a relief of similar units, commanders of the incoming and outgoing units arrange for the mutual exchange of crew-served weapons if such exchange will enhance and ensure the continuous effective delivery of fires and prevent compromise of the operation. Outgoing units normally leave in position bulky supplies and other material when it will be beneficial to the relieved and relieving element. Firing data, minefield records, and such other data as appropriate are provided the relieving unit.

(4) Communications.--For communication considerations and actions of the communication officer in the relief, see paragraph 3423.

(5) Transportation.--In order to make maximum use of available transportation and minimize traffic movement, the relieved and relieving units plan common use of nonorganic transportation.

(6) Attachments.--To simplify control and reduce the number of guides, commanders of incoming and outgoing battalions usually attach elements of their antitank platoons and attached tank units to rifle companies in whose area they are located. After completion of the relief, these units may revert to battalion control.

(7) Coordination.--The incoming commander must ensure that coordination is effected with adjacent and supporting units.

c. Conduct of Relief

(1) Defending forces are vulnerable to enemy attack during the conduct of a relief. Appropriate counterintelligence measures are employed to avoid disclosure of relief operations. Maximum fire support from outgoing and incoming units should be available to ensure the success of the operation and prevent enemy reaction in the event the operation is discovered by the enemy.

(2) To localize confusion inherent in a relief and to avoid excessive massing, adjacent companies of the battalion are not normally relieved at the same time. Elements of the outgoing battalion leave the area as soon as they are relieved and control is established.

(3) Assembly areas are not designated for units larger than a company. Company assembly areas are held to a minimum.

d. Command During Relief.--During the relief, commanders at each echelon are together at the command post or observation post of the outgoing unit. Command normally passes to the relieving commander when units in the forward defense area of the unit being relieved have been relieved and when adequate communications have been established. In the absence of orders from the next higher commander, the exact time of exchange of responsibility is agreed upon by the commanders concerned. When command passes, the incoming commander assumes control of all units of the outgoing unit which have not been relieved. If an attack occurs before the incoming commander assumes responsibility for the defense, he assists the outgoing commander with all means available to him. In this event, elements of the incoming unit in the battalion area are placed under the operational control

of the outgoing unit. Changes in organization of the defense desired by the incoming unit commander are initiated after the change of responsibility.

3503. PASSAGE OF LINES

a. Principles

(1) The unit in contact and the artillery in position must provide all possible aid to the attacking unit.

(2) The incoming unit must have priority in the use of facilities.

(3) Secrecy and surprise are of paramount importance.

(4) Close cooperation and the coordination of plans between the commanders of the incoming unit and the unit in place and their subordinates and staffs at all levels is very important.

(5) The plan should include specific measures to minimize the vulnerability of both units to enemy nuclear weapons.

b. Purpose.--A passage of lines may be conducted to maintain the momentum of the attack with fresh troops, change the direction of attack, exploit an enemy weakness with reserve forces, or initiate an offensive from a stablized situation. Coordination between units is essential for a rapid, secure, and controlled passage. Troop concentrations are minimized to avoid the formation of lucrative nuclear targets. In addition to items listed in paragraph 3501, the following receive emphasis in planning for a passage of lines:

c. Selection of Areas of Passage.--When possible, the areas selected for the actual passage should be the unoccupied areas between elements of the unit being passed through, or on its flanks. Units making the passage move to the area of passage and into the attack without occupying forward assembly areas. Careful planning is required to ensure that attacking units reach the LOD without the requirement for use of an assembly area. However, if a nuclear preparation is used, a nuclear safety line may be required and attacking units may be compelled to stop and take protective measures.

d. Transfer of Responsibility.--Responsibility is transferred to the commander of the unit executing the passage at a time mutually agreed upon unless the time has been specified by a higher commander. Normally, the commander of the unit making the passage of lines assumes responsibility for the zone of action at or prior to the time of attack. If responsibility for the zone is transferred prior to initiation of the attack, the commander of the unit making the passage is given operational control of those units being passed through that remain in contact at the time of the transfer.

e. Support.--The unit in contact provides all possible assistance to the unit executing the passage of lines. Such assistance includes the clearance of lanes through friendly minefield(s), provision of guides, fire support, and other combat support within its capabilities. In addition to tactical support, the unit in contact may assist the attacking unit in providing certain administrative support, including evacuation of casualties and prisoners of war, control of civilians, and traffic control.

Section VI. RETROGRADE OPERATIONS

3601. GENERAL

A retrograde operation is any movement of command to the rear or away from the enemy. It is an operation which may be forced by enemy action or made voluntarily; in either case, such an operation must be approved by higher echelon. A retrograde action may be conducted on the ground, by an air movement including both helicopters and fixed-wing aircraft, or by a combination of both methods.

a. General.--A retrograde movement may commence with a withdrawal action, followed by a delaying action, then by a retirement. Paragraph 3606 contains the principles of withdrawal through a rearward position. Retrograde operations are classified by three basic types:

(1) Withdrawal action in which all or part of a force is disengaged from the enemy to inititate other action.

(2) Delaying action in which a force trades space for time while inflicting maximum punishment on the enemy without becoming decisively engaged.

(3) Retirement in which a force avoids combat under existing conditions by conducting an orderly withdrawal according to its own plan and without pressure by enemy forces.

b. Purposes

(1) Retrograde operations are conducted for one or more of the following purposes:

(a) To disengage from combat.

(b) To avoid combat under unfavorable conditions.

(c) To draw the enemy into an unfavorable situation.

(d) To gain time without fighting a decisive engagement.

(e) To permit the force, or element of it, to be used elsewhere.

(f) To harass, exhaust, and inflict punishment on the enemy.

(g) To reposition forces prior to a friendly nuclear attack.

(h) To shorten lines of communication.

(2) It is important under modern battlefield conditions that the infantry battalion be capable of rapid disengagement from the enemy. Planned employment of nuclear weapons at times requires temporary withdrawal of the battalion. Hostile nuclear strikes may also require movement away from blasted areas to reorganize and avoid contamination. Battalions in the forward defense area of a mobile defense may conduct delaying actions in order

to maneuver enemy forces into an area of the defender's choice. A battalion, as a part of a general outpost, normally fights a delaying action.

c. Basic Considerations.--In the planning and conduct of all retrograde operations, the commander evaluates certain basic factors or considerations which may have an influence on the success of his operation. The degree to which these considerations are applied will vary with the situation.

(1) Enemy Situation.--Current knowledge of the enemy situation is essential to planning a retrograde operation. What are the enemy's capabilities, and what is the enemy most likely to do prior to and during the retrograde operation?

(2) Terrain.--Positions are selected which afford good observation and fields of fire. This allows a unit to engage the enemy with long-range fires and to inflict continuous damage on the enemy as he maneuvers toward the position. Concealment and cover are sought for delaying positions, assembly areas, and routes of movement. Road nets are exploited, especially by mechanized forces, to expedite movement and to facilitate control of the operation. Road nets are denied to the enemy. Helicopters may be employed to lift reserve units to secure key terrain features along the axis of withdrawal or to block enemy avenues of approach.

(3) Control and Coordination.--Retrograde operations are characterized by detailed, centralized planning and decentralized execution. Maximum use is made of such control measures as phase lines, checkpoints, routes, delaying positions, and times for withdrawal. Although missions to subordinate units are more detailed and more restrictive than in other operations, subordinate commanders should be allowed sufficient freedom of action to permit exploitation of advantages which develop at small unit level. This is essential, since in a retrograde operation, actions are normally carried out on an extended front, thereby making control and communications more difficult. Subordinate commanders are given detailed knowledge of the overall plan so that they may properly conduct independent actions when communications with higher or adjacent units are lost.

(4) Action Against Enemy Forces

(a) All units avoid close combat in retrograde operations unless it is required to accomplish the mission. Freedom of maneuver is essential to rapidly exploit any situation unfavorable to the enemy, shift forces to meet enemy attacks, secure the flanks and rear, and take maximum advantage of terrain. A decisive engagement is avoided except at the option of the withdrawing force, and the commander should be prepared to conduct violent offensive actions when the situation is to his advantage.

(b) An aggressive enemy may attempt to infiltrate through gaps between units and establish blocking positions or ambushes behind friendly lines. He may also attempt envelopments on exposed flanks and follow withdrawing columns to strike them from all directions. To counter such actions, commanders should place particular emphasis on helicopter-borne forces to provide gap coverage, flank security, and security during the move, even in seemingly friendly territory. During movements, mobile security forces, continuous reconnaissance, rapid movements, and air and antitank defense become priority requirements.

(5) Traffic Control and Control of Civilians

(a) Complete control of routes of withdrawal is essential to effective retrograde operations. Route priorities are therefore planned for all units to ensure their mission and capabilities. The probability of enemy interdiction of road nets or congestion along the routes of withdrawal also demands planning for alternate routes.

(b) Since a retrograde action can rarely be conducted without the civil population becoming involved, control and evacuation of civilians must be considered in all plans for a retrograde movement. Control of civilan movement is essential in order to avoid traffic disorder and congestion which might restrict the freedom of movement of the withdrawing force. Assistance from a higher authority will usually be required.

(6) Security and Deception.--Security is obtained in retrograde operations through passive security and deception measures, including:

(a) Requiring radio silence for displacing units and maintaining a normal radio pattern in the forward defense area.

(b) Providing front, flank, and rear security against ground and air attack to withdrawing units.

(c) Maintaining normal supporting fires and patrolling, to deceive the enemy.

(d) Displacing during conditions of reduced visibility or by infiltrating and withdrawing on a wide front to provide security against nuclear attack.

(e) Conducting limited objective attacks in areas away from the retrograde unit to occupy the enemy's attention.

(7) Demolitions and Obstacles

(a) Demolitions and obstacles are employed to the maximum extent practicable in order to delay and disorganize the enemy advance. Use of minefields, abatis, and craters, as well as destruction of bridges, tunnels, and narrow defiles, may restrict enemy maneuver and thereby facilitate withdrawal of friendly elements. Obstacles may also be created by nuclear fires.

(b) In planning the use of demolitions, guidance must be provided on the time or conditions under which demolitions will be fired. Engineer troops should be designated, and when appropriate, guards should be provided to prevent premature firing or seizure by enemy infiltrators. Care is taken so that demolitions employed do not hamper future operations in the area.

(8) Destruction of Bridges

(a) After withdrawal of security forces, all river-crossing means are normally removed or destroyed. Any boats or rafts on the far banks are removed or destroyed, fords are mined or made impassable with obstacles, and sufficient spans of the bridges are demolished to deny the

enemy the immediate use of the remaining bridge structure. The responsibility for destruction of bridges within his sector is normally delegated to the battalion commander. Certain restrictions on this type destruction may be imposed by the higher commander.

(b) An engineer officer or senior noncommissioned officer will normally be appointed to detonate demolitions. Infantry units provide an adequate guard. Demolitions are fired at a prescribed time on receipt of a code word, or upon order from competent authority. After the demolitions are fired, results are reported to the commander ordering the firing. In the event of a misfire or only partially successful demolition, the guard provides protection to engineer troops until such time as they complete the demolition.

(c) Firing of demolitions is normally executed upon the order of the authorized commander. However, if the enemy is in the act of capturing the bridge, the engineer officer/NCO will fire the demolitions on his own initiative.

(d) Plans for destruction of bridges must ensure that they are not blown prematurely or captured intact by the enemy. A list of units that are to use the bridge is furnished to the demolition party. Commanders of withdrawing units notify the guard commander when their units have cleared.

(9) Fire Support Planning.--Fire support planning in retrograde operations is similar to that of defensive operations. Particular emphasis is placed on the following:

(a) Fires are planned near all defiles and obstacles created by demolitions to include minefields, destroyed bridges and tunnels, and other obstacles. Nuclear weapons may be profitably employed to create craters, cause tree blowdown, or create other obstacles to impede ememy movement. Surface or subsurface burst nuclear weapons are effective for contamination of terrain after a withdrawal by friendly forces. The enemy must then avoid the contaminated area and be forced into terrain favorable to the retiring force, or cross the contaminated area and accept casualties.

(b) If the enemy masses strength to force passage of an obstacle, he becomes vulnerable to a nuclear attack and possible exploitation by a limited offensive action. Nuclear weapons may also be employed to assist in disengagement when necessary.

(c) Since retrograde movements may involve periodic loss of control, the employment of nuclear weapons should be carefully coordinated.

(10) Use of Chemical Support.--In retrograde operations, flame weapons may be effectively used against mass attacks which threaten to overrun positions. Smoke may be used to assist in screening troop movements, in deception, or to assist in disengagement.

(11) Administrative and Logistic Support

(a) Plans provide for disposition of excess supplies and equipment, evacuation of disabled vehicles, resupply during the retrograde operation, medical evacuation, and destruction of nonmedical supplies and equipment, if necessary.

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(b) Every effort is made to prevent supplies and equipment from falling into enemy hands. For this reason, maintenance teams are normally placed well forward. In addition, specific instructions are issued authorizing destruction by designated personnel of nonmedical supplies and equipment which cannot be evacuated.

(c) Logistic support installations are normally located well to the rear so as to avoid interference with tactical operations and to ensure minimum displacement. In the retrograde, plans must provide for a high rate of consumption of class III and class V supplies. Normally, these and other supplies are stockpiled by higher headquarters at predesignated points along routes of withdrawal.

(12) Use of Helicopters and Tactical Air

(a) The battalion may use helicopters in traffic control, multichannel radio, wire laying, medical evacuation, courier and messenger service, surveillance of enemy-held areas, artillery and mortar adjustment, laying smoke screens, and for movement of personnel, supplies, and equipment. Commanders can achieve better control and obtain more timely information by supervising the operation from observation aircraft. Helicopterborne forces can be used to block defiles and other critical points. When friendly forces are heavily engaged, tactical aircraft may be used to assist them in disengaging and covering their withdrawal. Tactical air observers may conduct reconnaissance to determine conditions of roads and bridges to the rear as well as to locate bypasses and alternate routes.

(b) A withdrawal by air may be conducted in which all or a major part of a deployed force disengages from the enemy and is moved by air to another location.

(13) Morale Considerations.--All personnel are fully informed of the purpose of the operation. An aggressive spirit is retained and full advantage is taken of all opportunities for offensive action. The results of successful offensive operations and/or destruction of the enemy by nuclear fires are made known to all troops. Rumors are suppressed. The retrograde operation is perhaps the most difficult operation to conduct because of the battlefield conditions which exist; therefore, forceful leadership, strict discipline, effective control, and prior planning are especially important.

(14) Stay-Behind Forces

(a) During a retrograde movement, friendly elements may be ordered to let enemy forces bypass them so they may operate as stay-behind forces. Operations of such forces require detailed planning, carefully delineated missions, and effective control. Requirements for long-range communication equipment and for evacuation normally necessitate support from higher echelon.

(b) The actions of a stay-behind force are determined by its assigned mission. Appropriate missions include calling for and adjusting fires, executing demolition, locating nuclear targets, reporting enemy information, and conducting raids to destroy key installations such as enemy command or communication facilties and supply installations. Planning should include contingency missions for units that may be forced into the role of stay-behind forces. Plans should also include measures for

supporting fires, resupply, coordination with friendly guerrillas, and recovery.

(15) Communications.--Maximum use is made of wire communications during retrograde operations. However, in mechanized-motorized units, or when operating over extended fronts, radio and messenger may be the only means practicable. Regardless of means employed, every effort is made to avoid premature disclosure of the operation.

3602. WITHDRAWAL ACTION

a. General

(1) In a withdrawal action, the battalion, or elements thereof, disengages from combat in order to position itself for employment elsewhere. The battalion may participate in a withdrawal as part of a larger force, on its own, or direct the withdrawal of certain of its subordinate companies.

(2) Withdrawals are classified as either withdrawals under enemy pressure or withdrawals without enemy pressure. Withdrawals without enemy pressure are favored over withdrawals under enemy pressure as they provide more freedom of action, facilitate deception, and reduce the effectiveness of enemy observation and fires. In either type, contact is maintained with the enemy to provide security, to deceive the enemy, and to prevent a rapid enemy advance. Units lightly engaged may be withdrawn by helicopters.

(3) The commander ordering a withdrawal designates the location to which troops move and the action to be taken after the withdrawal. Although withdrawals are normally conducted in a direction generally perpendicular to the line of contact, on occasions, a limited lateral movement may be considered.

(4) The battalion is normally assigned sectors or routes of withdrawal. The boundaries of the sector extend to the rear of the covering force or to a new position. The battalion commander assigns priority for use of routes to subordinate units.

(5) During the withdrawal, limited objective attacks or counterattacks can be conducted to facilitate disengagement and keep the enemy off balance.

b. Planning for a Withdrawal

(1) Upon receipt of an order to execute a withdrawal, the battalion commander and his staff follow the normal sequence of planning. The plan of withdrawal includes a scheme of maneuver and a plan of fire support. Both are developed concurrently and are closely integrated. In addition to the essential details of security, logistic support, and communications, it also includes all or most of the following:

(a) New location of rear positions or assembly areas.

(b) Sectors of withdrawal and/or routes of withdrawal.

(c) Time of withdrawal and sequence of withdrawal of all subordinate units. If the exact time is not known, planning is based on an H-hour.

(d) Composition and mission of detachments left in contact.

(e) Location and composition of ambush.

(f) Planned employment of supporting fires.

(g) Tactical cover and deception measures.

(h) Designation of control measures for coordination; i.e., phase lines, checkpoints, initial points, and release points.

(i) Instructions for the movement of logistic installations to the rear.

(j) Evacuation of casualties.

(k) Provisions for evacuation and/or destruction of specific supplies and equipment.

(l) Traffic control measure and instructions relative to priority and movement.

(m) Alternate plans.

(n) Preparation of limited attack or counterattack plans to aid in disengagement of heavily engaged units.

(2) Planning for the withdrawal should allow sufficient time for subordinate commanders to conduct daylight reconnaissance of routes, terrain, and new positions.

c. Withdrawal Without Enemy Pressure

(1) Concept.--The withdrawal without enemy pressure is executed with all possible stealth. It is conducted during periods of reduced visibility, natural or artificial, with maximum use of deception measures to deceive the enemy as to our intent. Upon execution, the main body of forward committed units withdraw to the rear, under the cover of the detachments left in contact. As it moves further to the rear, the main body will usually come under the protection of the regimental covering force, normally the reserve battalion through which it withdraws.

(2) Detachments Left in Contact

(a) The detachments left in contact have the mission of simulating normal activities of the main force and protecting the withdrawal of the main body within their capabilities. The detachments have limited capability for resistance and depend primarily upon deception to accomplish their mission.

(b) The battalion commander coordinates the employment of detachments left in contact to include provision for necessary artillery support. He specifies the time of withdrawal by directing detachments to withdraw on order, at a prescribed hour, or upon the occurrence of a specified contingency. He directs what action is to be taken in case of hostile attack and also prescribes the general strength for the detachments.

(c) Within limitations imposed by the regimental commander, the battalion commander prescribes the size and composition of the battalion detachments left in contact. Normally, the detachments do not exceed one-third of the rifle companies, augmented by approximately one-half of the organic or supporting weapons. Detachments may also include one-third of the supporting engineers, elements of attached tank units located in forward company areas, the forward air controller and sufficient forward observers, and the necessary medical, command, and control elements. Inasmuch as the detachments left in contact simulate the normal activity of a fully occupied position, all elements are located so as to give the impression that the position is fully occupied.

(d) Deception and secrecy are obtained by suppressing noise made by withdrawing units, by simulating normal supporting fires, by patrolling, by using dummy positions, and by simulating normal radar coverage and radio traffic. Tanks employed with forward units may remain with detachments left in contact, particularly when their withdrawal may compromise the secrecy of the operation and when they are required by the detachments left in contact to accomplish the mission. This requirement is particularly valid if the enemy possesses armor. If tanks are withdrawn, they do so by infiltration prior to the withdrawal of the main body. Their withdrawal is accompanied by a ruse or noise diversion such as delivery of artillery concentrations or an airstrike on enemy positions in their proximity.

(e) The 81mm mortar platoon usually remains in position to support the initial phases of the withdrawal and then displaces prior to the movement of the main body. Designated elements of the 81mm mortar platoon and the artillery battalion remain with the detachments left in contact.

(f) Subsequent to the initiation of the withdrawal, and at the discretion of the battalion commander, the commander of the detachments assumes responsibility for the sector. The commander of the detachments may change the disposition of forces in his sector to preserve the integrity of the position. Alteration of the position is not made until the main body has cleared the forward company area. He reports such changes to the battalion.

(3) Control Measures.--The battalion commander maintains control of the withdrawal by designating initial points (IP's) and release points (RP's); guides; company assembly areas; routes of withdrawal, including alternate routes; and route priorities in accordance with those assigned by the regimental commander. He recommends to the regimental commander locations for traffic control posts along routes of withdrawal. The battalion normally does not establish traffic control posts. Assembly areas are located well forward to facilitate early reorganization of the units for the withdrawal. These assembly areas are located on good routes of withdawal, in defilade if possible, with adequate turnaround space provided in or adjacent to them if transportation is to be used. Assembly areas are planned for the withdrawal without pressure, but may not be occupied when the commander senses that the movement can be controlled without their use. When used, they are occupied for the briefest possible period; the occupying unit provides its own security. Alternate routes are provided to ensure the orderly movement of the force to the rear in case primary routes are denied. (See fig. 58.)

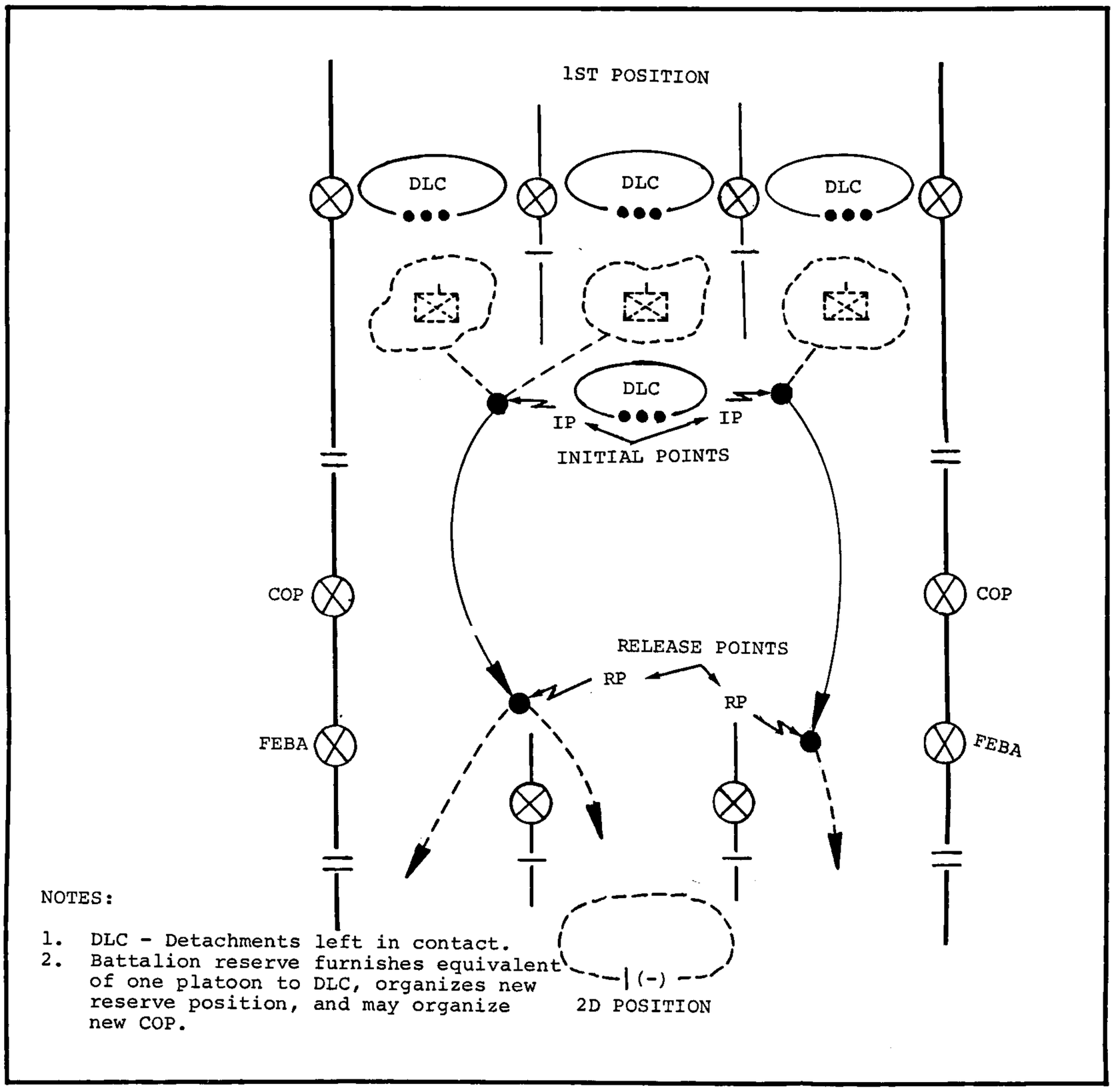

Figure 58.--Battalion in a Withdrawal Without Enemy Pressure.

(4) Fire Support Planning

(a) Plans for supporting fires include the maintenance of normal nonnuclear fires in the area. This requires an increased rate of fire from the weapons supporting the detachments left in contact.

(b) A withdrawal without enemy pressure is normally made without the use of scheduled nuclear weapon support since success depends primarily upon secrecy. However, if a withdrawal without enemy pressure receives heavy enemy pressure, it is normally supported by on-call nonnuclear and/or nuclear fires.

(5) Transportation.--If provided by the regiment or higher headquarters, the main body may be moved by helicopters, motor transport, LVTP, or any combination thereof. Normally, the main body of the battalion will move by foot to the rear to predesignated assembly area(s)

or along route(s) where they may be picked up as transportation becomes available. It is desirable to displace the detachments left in contact by the transportation means mentioned above, provided the situation permits and the means are available. If the battalion enjoys a degree of mobility greater than the enemy, the withdrawal may be made in a single step, with all units withdrawn simultaneously.

(6) Supply and Medical Evacuation

(a) Before the withdrawal starts, unit commanders ensure that the level of ammunition supply is adequate for the action. The first troops to withdraw can, if necessary, transfer ammunition to the detachments left in contact. Supplies are delivered at the new position in time to fill anticipated needs.

(b) During a withdrawal without enemy pressure, medical air evacuation may be limited. A skeletonized aid station remains with the detachments left in contact.

(7) Communications

(a) A daylight reconnaissance is made to select and mark command post sites on the new position. If practicable, wire lines are installed before dark except when such action will compromise secrecy.

(b) Enough communication personnel remain with the detachments left in contact to maintain continuous wire communications by using the lines already established in the old position. Wire communications between the new battalion command post and the detachments left in contact is desirable because of radio restriction. Wire lines are cut and sections removed upon withdrawal of detachments left in contact.

(c) During the withdrawal, emission control is maintained in the new position and the use of radio by moving units is restricted. Normal radio traffic in the old position is continued for deception. Adequate radios are left in the old position to permit the simulation of normal activities.

(8) Conduct of a Withdrawal Without Enemy Pressure

(a) Higher commanders usually specify the exact time that the main body of the battalion begins its withdrawal. If necessary, limited objective attacks or counterattacks may be launched to aid in the deception plan, or to cover the withdrawal of forward committed units.

(b) Logistic installations usually precede movement of the main body to the rear, followed, in turn, by company vehicles not required by the main body or the detachments left in contact. They may move by infiltration during daylight, observing strict security measures so as not to disclose the withdrawal to the enemy. Such movement is authorized by the regiment or higher commander.

(c) The reserve company may withdraw as a unit immediately prior to the withdrawal of the main body of forward companies. If the battalion commander anticipates possible pressure from the enemy, he may retain the reserve company in position until the main body of forward companies has passed through the reserve company position.

(d) All elements of the forward companies not designated as part of the detachments left in contact normally withdraw simultaneously. Small units withdraw through platoon assembly areas over predesignated and reconnoitered routes. Units move by motor or on foot through starting points along previously designated routes to the rear position. Supporting units and weapons are normally attached for the withdrawal to the unit in whose area they are employed.

(e) Artillery and mortars that are not supporting the detachments left in contact are usually displaced to positions to the rear soon after the main body of forward companies starts to withdraw. This permits maximum fire support during the initial stage of the withdrawal.

(f) A rear guard secures the movement of the main body.

(g) Elements of the detachments left in contact withdraw simultaneously at a prescribed time or on order, using the same assembly area and routes of withdrawal designated for the main force, providing such routes have not been compromised to the enemy. The time of withdrawal generally is prescribed by the higher commander. In a night withdrawal, this should permit the detachments left in contact to join the main force prior to daylight.

(h) To avoid confusion when the battalion withdraws to a new position, its units are initially employed, when practicable, in the same or similar formation on the new position as on the old position. The COP, if established, is normally manned by elements of the reserve company. Initially, the reserve commander controls the COP; however, when the forward company positions reach a satisfactory stage of completion, personnel from the forward companies may relieve the elements of the reserve company on the COP to allow them to prepare reserve positions behind the FEBA. As these elements are relieved, they become the reserve in the assigned area. When a COP is not established, elements of the reserve company may assist forward companies in preparing their positions, or they may immediately begin preparation of reserve positions.

(9) Simultaneous Withdrawal Without Detachments Left in Contact. --When friendly forces have a greater degree of mobility than the enemy and when the forces in contact are not under enemy pressure, it may be feasible to withdraw all forward units simultaneously without leaving detachments in contact. If such a movement is undertaken, the withdrawing unit forms a rear guard to protect the movement against enemy action.

d. Withdrawal Under Enemy Pressure

(1) Concept.--A withdrawal under enemy pressure is avoided whenever possible. If such a withdrawal is required, and the battalion is on the FEBA, a covering force is used to provide security for the withdrawing elements. (See fig. 59.) Forward units withdraw intact, and detachments are not left to cover the withdrawal. Success of the withdrawal under enemy pressure depends, in great part, upon at least temporary local air superiority and effective employment of covering forces.

(2) Covering Force

(a) The battalion covering force is normally the battalion reserve reinforced with supporting units and weapons. The primary mission

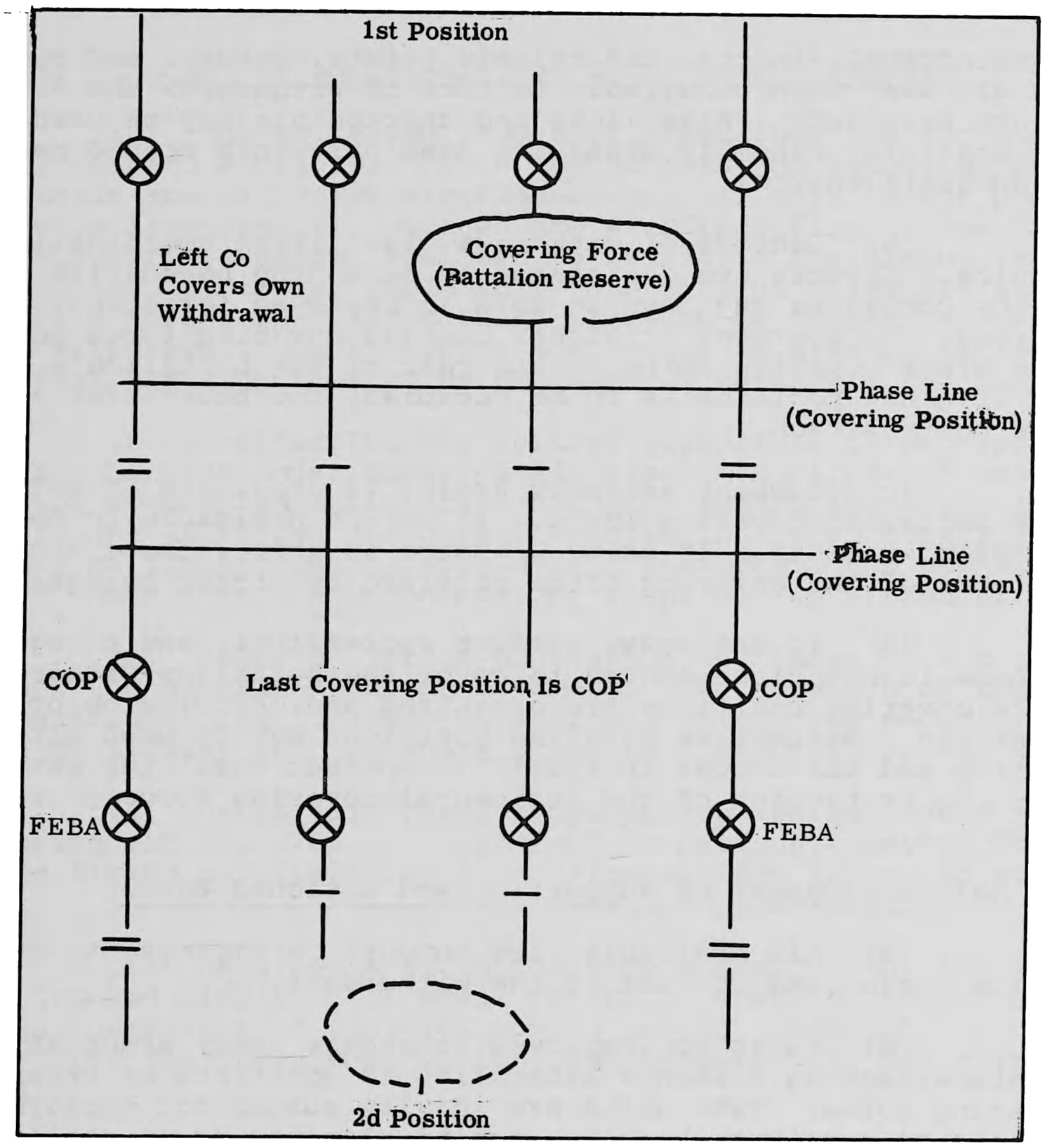

Figure 59.--Battalion in a Withdrawal Under Enemy Pressure.

of the covering force is to provide security for the withdrawal of forward companies; however, the covering force may also be required to assist units in disengaging and to conduct limited offensive actions.

(b) In designating the initial location for the covering force, the battalion commander considers the defensibility of the terrain, possible enemy courses of action, the ability of the force to cover the withdrawal of the companies in contact, the direction of withdrawal, and the location of the regimental covering force. The covering force for withdrawals differs from those employed in offensive or defensive operations in that it is employed to the rear of the forward committed elements.

(3) Control Measures

(a) Control measures are similar to those used for a withdrawal without enemy pressure; assembly areas, routes and alternate

routes of withdrawal, initial and release points, guides, and route priorities are used when required. Sectors of withdrawal and covering positions are assigned. Phase lines and checkpoints may be used to facilitate control. Assembly areas are used only when deemed necessary to ensure adequate control.

(b) Sectors of withdrawal facilitate coordination between adjacent units. Sectors are designated by extending boundaries to the rear as far as the companies may have to move in deployed formation; normally, this is through the regiment or higher command covering force position. If there is no other covering force to the rear of the battalion's covering force, and if a new position is to be occupied, the boundaries extend through the new position.

(c) Company assembly areas, if used, are in defilade in rear of the battalion covering force. It may be desirable to designate alternate assembly areas. If enemy pressure is great, these areas may be located in rear of the covering force provided by higher headquarters.

(d) If the enemy pursues aggressively and a regimental covering force is not close enough to cover the battalion withdrawal, intermediate covering positions are organized and occupied on previously selected terrain. Successive covering positions may be used alternately by the reserve and the forces initially in contact until the battalion comes under the protection of the regimental covering force or reaches the new position.

(4) Employment of Supporting and Attached Units

(a) All available fire support is employed to assist forward units during the conduct of the withdrawal.

(b) Tanks are employed to engage enemy armor at long ranges, and in counterattacking elements attempting to penetrate or bypass the battalion covering force. Tank units are ideally suited for employment in counterattacks to extricate heavily engaged elements or in spoiling attacks against enemy troops forming or assembling for an attack. Platoons of a tank company may support the forward companies in their withdrawal. After the forward companies withdraw, the entire tank company may be employed as a part of the battalion covering force. Tanks and infantry habitually work together; however, when the terrain is trafficable and provides good observation, the infantry elements of a company generally withdraw before the tanks. If observation is restricted, the infantry covers the withdrawal of the tanks.

(c) Reconnaissance units in support of the regiment may be used under battalion control to maintain at least visual contact with enemy forces and give warning of hostile movements.

(d) Elements of the Dragon missile platoon, with appropriate transportation, are usually attached to withdrawing forward companies to engage enemy armor at long ranges. Elements of the Dragon missile platoon may be attached to the battalion covering force as forward companies withdraw through the covering force.

(e) The FAC directs airstrikes against targets of opportunity.

(5) Conduct of the Withdrawal Under Enemy Pressure

(a) The battalion commander prescribes the sequence of withdrawal of forward companies. When the terrain and situation permit, all forward units are withdrawn simultaneously. If this is not practicable, the units least heavily engaged are withdrawn first. The fires of organic and supporting weapons are used to assist in the disengagement. In some situations, it is desirable to launch limited objective attacks by highly mobile forces to relieve enemy pressure on forward elements and permit their withdrawal. Smokescreens are useful in disengaging such units. Tactical air support must be employed aggressively and continuously.

(b) Ordinarily, the initial withdrawal of engaged units is straight to the rear under cover of all available fires. These units may move to the company assembly areas or, more desirably, directly to a rearward position. Although the battalion covering force normally covers the withdrawal of forward companies, in some instances, the company may be required to cover its own withdrawal by leapfrogging platoons.

(c) Security forces consisting of flank, advance, and rear guards protect the battalion during movement. The strength of the security elements depends upon the location of adjacent units; the security provided by higher headquarters; and the enemy strength, composition, and activity.

(d) Units gain passive protection against enemy air attacks by using air sentries and dispersed formations. Automatic weapons are placed in firing positions for protection against enemy air during a halt.

(e) As a means of maintaining secrecy, vehicles moving to the rear proceed singly or in small groups. Deception may be gained by using open formations of vehicles moving toward the front, by using smoke to restrict the enemy observation, and by carefully selecting routes of withdrawal.

(f) If the regimental covering force is not positioned to cover the withdrawal of the battalion covering force, forward companies and the covering force leapfrog from one intermediate covering position to another until the battalion reaches a secure position. In this type action, small mobile forces strong in firepower take maximum advantage of terrain from which long-range fires can be placed on the enemy. These mobile covering forces withdraw before they become engaged in close combat unless otherwise ordered by the commander of the withdrawing unit. Since the conduct of this type action depends on small-unit action, authority for withdrawal rests with the lowest echelon of command consistent with a coordination capability throughout the battalion.

(g) Throughout all phases of the withdrawal operation, a dispersed formation is maintained consistent with the capability to cover forward units and delay the enemy advance.

(h) A withdrawal by helicopter is conducted much in the same manner as the withdrawals described above. However, additional assembly areas and helicopter loading areas are designated. As units assemble in the rear under the protection of the covering force, combat outpost, or detachments left in contact, they embark rapidly aboard helicopters. When units become helicopterborne, the remainder of their movement is actually conducted as a retirement rather than a withdrawal.

3603. BATTALION AS A COVERING FORCE

a. General.--The battalion may be assigned a mission of covering the withdrawal of forward battalions of the regiment or it may operate as part of the reserve regiment and cover the withdrawing regiment. When the battalion is assigned the mission of covering the withdrawal of another unit, the initial position and the period of time it is to be held or the conditions under which the battalion withdraws are prescribed by a higher commander. The battalion is usually reinforced for a covering force mission.

b. Operation.--The battalion organizes and defends the covering position in a manner generally similar to that used in a delaying action (see par. 3604.) The reserve battalion is used to meet an envelopment of either flank, block a penetration, counterattack, reduce minor penetrations, extricate heavily engaged units, and cover the withdrawal of the remainder of the regiment.

c. Mission.--A battalion operating as a covering force accomplishes its mission by:

(1) Delaying enemy troops with demolitions and obstacles.

(2) Employing long-range fires, both nuclear and nonnuclear.

(3) Ambushing advancing enemy formations.

(4) Counterattacking if the situation warrants.

(5) Covering its own withdrawal with its reserve and the fires of organic and supporting weapons.

3604. DELAYING ACTION

a. General

(1) In a delaying action, the battalion trades space for time and inflicts maximum punishment on the enemy without losing freedom of action by becoming decisively engaged.

(2) Delaying actions may be conducted by the following methods:

(a) Delaying on a single position.

(b) Delaying on successive positions.

(c) Delaying on alternate positions.

(d) Limited offensive action (feint) to throw the enemy off balance.

(e) Ambushing advancing enemy formations.

(f) Spoiling attack and counterattacks.

(g) A combination of the above.

(3) When assigned a delaying mission, the battalion is required to prevent the enemy from advancing beyond a specific locality until a time

specified by the commander ordering the delaying action. The battalion commander must then make the decision as to what type of delay to conduct, normally, either a delay on alternate or successive positions. There are four factors which he must consider in making this decision:

(a) Width of Sector Compared to Forces Available.--In order to employ the delay on alternate positions, the battalion must have sufficient forces to deploy on two positions simultaneously. If the forces are insufficient, delay on successive positions is required.

(b) Relative Combat Powers of Opposing Forces.--In a delay, it is expected that the enemy will have the preponderance of combat power. As the ratio of combat power increases in favor of the enemy, the more successive delay is favored.

(c) Relative Mobility of Opposing Forces.--Although the delaying force seeks to degrade the mobility of the enemy by controlling avenues of approach, if the enemy does enjoy a marked advantage in mobility, this advantage may be overcome to some extent by employing alternate delay. This is because in the alternate delay, a large part of the movement by friendly forces is made while out of contact with the enemy.

(d) Number and Location of Delay Positions in Depth Compared to Duration of Delay.--The commander must evaluate the terrain throughout his assigned sector and determine how many suitable delaying positions are available to him. In addition, he determines how much delay (time) can be obtained from each position. If numerous positions are available, the commander may elect to employ delay on alternate positions. This method has the advantage of having at least half of the available combat power in contact with the enemy, while the other half is preparing subsequent positions; however, because only half the force is used, delaying positions cannot be held for as long as when employing delay on successive positions. If there are few suitable delaying positions and the commander must delay for longer periods of time in each position, then he would select delay on successive positions.

(4) Regardless of which type of delay the commander selects, continuous delay is inherent. Continuous delay requires that constant contact be maintained with the enemy by at least a portion of the delaying force, to include the use of long-range fire and maneuver to cause the enemy to deploy or otherwise delay his advance.

(5) To assist the delay, the battalion employs deceptive measures and long-range fires and makes extensive use of obstacles. It avoids becoming engaged in close combat unless time or the terrain dictate such action to ensure accomplishment of the mission.

b. Delaying Positions

(1) The battalion commander selects delaying positions that require the enemy to regroup his forces and displace supporting weapons before he can launch a coordinated attack against the new position. No good delaying position is ignored, even though it may not force the enemy to regroup in order to continue his attack.

(2) Delaying positions should include the following characteristics:

(a) Good observation and fields of fire at medium and long-ranges. If a long delay on one position is required, good short-range fields of fire are also necessary.

(b) Concealed routes of withdrawal.

(c) Obstacles to the front and flanks.

(d) Maximum concealment.

(e) A series of cross-compartments across the direction of enemy advance.

c. Planning for Delaying Action

(1) A delaying mission assigned to the battalion commander may include the general location of the initial delaying position if the battalion is not in contact, the area for delay, and the period of time he is to delay forward of the designated position. Times of withdrawal, phase lines, and successive or alternate delaying positions may also be prescribed.

(2) Within this framework, the battalion commander establishes his scheme of maneuver and plan of fire support. He may designate delaying positions for his battalion in addition to those prescribed by the higher commander. The number of positions to be occupied depends on the total space available for delay, terrain, relative mobility of opposing forces, enemy situation, and required delay time as stated in the mission.

(3) As part of a delaying action, the battalion commander may also be required to make a withdrawal through a rearward position. In such a case, battalion plans provide for liaison and coordination with the rearward force.

d. Organization

(1) Generally, a battalion can delay effectively on approximately twice the frontage on which it can defend. A battalion delaying position is normally organized with a security echelon, a forward defense echelon, and a reserve echelon. The location, organization, source, and missions of the security force are similar to those in defensive operations. The forward defense echelon is organized by the platoons of the forward companies. Normally, all platoons of each company are deployed on line. Platoons organize positions with normal frontages. Company frontages, however, are extended by increasing the intervals between the rifle platoons. These intervals are covered by fire and obstacles. The companies on the forward defense echelon occupy terrain on, or controlling, topographical crests to facilitate long-range fires and daylight withdrawals. Company supporting weapons, battalion direct fire weapons, and antitank elements or tank units as available are located within the rifle platoon areas to provide long-range fires.

(2) The 81mm mortars and the supporting artillery battery are placed well forward to take advantage of their range capabilities. Vehicles for crew-served weapons are positioned in the vicinity of the firing positions to facilitate rapid withdrawal.

(3) The battalion reserve may prepare positions to protect the flanks and rear and to cover the withdrawal of companies from the forward defense echelons in the event a daylight withdrawal is required. The battalion reserve may also be ordered to execute counterattacks when the situation so warrants. The reserve should be mobile and positioned in a central location from which it can move quickly to any portion of the forward defense echelon. When blocking positions are prepared, the battalion reserve is prepared to occupy these positions rapidly. Positions dominating a dangerous avenue of approach may be occupied by part of the reserve.

e. Execution.--Security forces are employed in a delaying action in the same manner as they are in a position or mobile defense. Companies of the forward defense echelon effect maximum delay. Weapons positioned at the forward defense echelon open fire at long ranges and use maximum rates of fire. When terrain permits adequate room for maneuver by the attacking enemy force, artillery and mortar fires are planned to interdict his movement to the flanks as well as to the front. Maximum use is made of close air support to delay the enemy. Nuclear fires may be delivered on suitable targets, if authorized to support the delaying action. When the enemy is closing with the companies on the delaying position, the battalion commander must decide whether or not to withdraw. Before making his decision, he must decide if sufficient delay has been accomplished on the position and whether his battalion can continue to delay without becoming engaged in close combat. If his position is threatened during conditions of good visibility, the battalion commander considers the advantages of an immediate withdrawal as opposed to withdrawing under the cover of darkness. The battalion reserve may be employed in blocking positions to cover the withdrawal of forward committed companies.

3605. RETIREMENT

a. General.--A retirement is a retrograde movement in which a force withdraws without enemy pressure. It may be made following action or when no contact with the enemy has been made. In a withdrawal, the movement becomes a retirement after the main forces have broken contact with the enemy and march columns have been formed.

b. Execution.--A battalion usually executes a retirement as a part of a larger force. If on an independent mission, it retires in compliance with specific instructions or after completing its mission. The battalion makes maximum use of cover and concealment and avoids undue concentration as it retires, particularly when the estimated enemy nuclear threat is great. The battalion usually adopts a march formation in a retirement, employing an advance guard, flank guards, and a rear guard to provide for security of the main body.

3606. WITHDRAWAL THROUGH A REARWARD POSITION

a. General.--Withdrawals through rearward positions are normally conducted during retrograde operations. The act of passing through a rearward position may be considered a relief operation.

b. Principles

(1) The unit in position provides all possible aid to the withdrawing unit. The unit in position holds up the enemy on its defensive position after the withdrawing unit has passed through.

(2) The withdrawing unit must have priority on roads and facilities, provided it does not prejudice the defense.

(3) Close coordination and cooperation between commanders of the withdrawing force and the force in position are of great importance.

(4) In planning movement back to, and through the defensive position, every effort must be made to avoid presenting worthwhile nuclear targets.

(5) The responsiblity of the withdrawing force for the delaying action terminates upon passage through the defensive position, or such later time as may be directed by higher authority.

(6) Coordination and control is facilitated if sector boundaries for both the unit in position and the withdrawing unit are made to coincide and points of passage through the defensive position are reduced to a minimum.

(7) Layout of the defensive position, fire plan, security, vulnerability, and the delaying mission must be considered in selecting points for passing through. When possible, routes of withdrawal, particularly for armor, should avoid local prepared defensive positions.

(8) The commander of the withdrawing unit is responsible for identifying the last element of his command as it passes through the unit in position.

(9) A detailed plan for mutual recognition must be prepared and carefully coordinated by the withdrawing unit and the unit in position.

Section VII. OPERATIONS AT A RIVERLINE

3701. GENERAL

This section discusses the role of the Marine infantry battalion as part of a larger force, in both the attack and defense of a riverline. In warfare of the past, the riverline has been a major obstacle to attacking forces; it has been exploited to the utmost by defending forces. However, history reflects that superior forces have, in most cases, conducted successful crossings. The employment of nuclear weapons and the vast increase in flexibility and mobility provided by the helicopter and amphibious vehicles have provided both the attacker and defender with many variations in conducting both the offense and defense of a riverline.

3702. ATTACK OF A RIVERLINE

a. General.--When the far bank of the river is held by the enemy, a battalion usually attacks across the river as a part of a regiment operating in conjunction with other forces. The battalion may constitute an initial bridgehead force, or it may cross as a unit of a larger bridgehead force. The purpose of a river crossing is to move the attacking force across a river obstacle as rapidly and as efficiently as possible so that it may either continue its attack to destroy the enemy or to seize an assigned objective which will protect the crossing of the remainder of the force. It is an offensive operation differing from other offensive actions primarily in the application of techniques. However, it may require specialized crossing equipment and trained personnel. Whenever possible, a crossing is accomplished on a broad front to facilitate dispersion. However, crossing sites are usually limited in number, thus resulting in the canalization of attacking forces. Plans therefore include provisions for rapid dispersion on the far shore both in width and depth in order to avoid presenting a lucrative target for enemy fires. An attacking force employing LVTP's in the waterborne assault in conjunction with a helicopterborne force seizing river crossing sites, key terrain, or isolating the defending force has a high degree of mobility and flexibility. In addition, a Marine force bridge company provides a bridging capability consisting of three floating 60-ton bridges, three fixed aluminum highway bridges, and six footbridges.

b. Definitions

(1) Types of Crossings

(a) Hasty Crossings.--A crossing is termed hasty when it can be conducted as a continuation of the attack, with a minimum loss of momentum, by the same forces which execute the advance to the riverline. Since the hasty crossing is characterized by speed, surprise, and minimum concentration of personnel and equipment, it is normally less vulnerable to enemy counteraction than a deliberate crossing. Emphasis is placed on the necessity for prior planning to include necessary attachments and allocation of crossing means to the force executing the hasty crossing.

(b) Deliberate Crossing.--The deliberate crossing is characterized by some delay, more detailed preparation and planning at

258-888 O - 78 - 22

all levels, and the employment of extensive and specialized river crossing means. Clearance of enemy opposition in the zone of advance on the near shore should be accomplished prior to the attack in a deliberate crossing. A deliberate river crossing may be conducted under any of the following conditions:

1 As a resumption of the offensive.

2 When a hasty crossing is not feasible because of the difficulty of the obstacle or because of the strength of enemy defenses.

(2) Crossing Front.--A crossing front is the entire length of the riverline in a unit's (division, regiment, battalion, etc.) zone.

(3) Crossing Sites.--The term crossing sites refers to any or all of the bridge, ferry, and assault crossing sites within a crossing front.

(a) An assault crossing site is an area on the riverline of sufficient size to accommodate, as required, a regiment, infantry battalion, task force, or company.

(b) A ferry site is an area on the riverline from which equipment, supplies, and personnel are transported across the river by waterborne means. The scale of operations and efficiency of a ferry site will vary depending upon the characteristics of the stream and areas of entrance or exit thereto.

(4) Crossing Area.--A crossing area is that portion of a riverline containing a bridge site and/or ferry site and the minimum essential assault crossing sites necessary to secure a bridge site.

(5) Combat Deception Measures

(a) A feint, as used in river crossing operations, is a show of force intended to mislead and deceive the enemy as to the exact location of the actual crossing sites. It consists of the crossing of the river by a small proportion of the assault force, with a limited objective attack. If the feint is successful, the commander may decide to exploit in the area of the feint.

(b) A demonstration, as used in river crossing operations, is a show of force on the near bank of the river intended to deceive the enemy as to the exact location of the actual crossing sites. No crossing of the river is involved in a demonstration.

(6) Bridgehead.--A bridgehead is the area on the far bank of a stream which is seized and secured by the assault force in a river crossing operation. The area included in the bridgehead should be sufficient to accommodate and facilitate maneuver of the forces involved in the crossing without undue congestion. The area seized should be of sufficient size to provide protection for the crossing of the remainder of the force, and provide a base for further operations.

c. Reconnaissance

(1) Detailed information of the enemy situation and the nature of the river is essential. Since even small enemy forces can seriously

interfere with a crossing, the commander executing the operation obtains detailed knowledge of the location of any enemy force that can place observed fire on the river. The location of enemy reserves also assumes great importance because of the initial vulnerability of the crossing force to counterattack, especially by armor. Reconnaissance is therefore directed toward locating these enemy units so that their effectiveness may be reduced at the time of attack. Reconnaissance may reveal excellent blocking positions for helicopterborne forces beyond the far bank. All possible landing areas/zones are noted in case a diversionary attack by surface means or by helicopterborne forces is desired in conjunction with the crossing attack. Aerial reconnaissance is kept to the minimum necessary to accomplish the mission.

(2) Much information about the river is usually available from engineer and civilian sources. Nonetheless, the battalion may frequently be required to reconnoiter for its own crossing sites. When possible, small reconnaissance patrols are sent to reconnoiter crossing sites. Essential intelligence desired about the enemy consists generally of the following:

(a) Composition and distribution of enemy forces, including the location of weapons, minefields, and other defensive works, and undefended or weakly defended crossing sites.

(b) Well-defined terrain features suitable as company objectives.

(c) Locations for reserves and other units upon reaching the far side.

(d) Road and trail net on the enemy side.

(e) Routes of advance through the enemy position.

(f) Terrain features on the near side of the river for observation posts and for position areas for supporting weapons.

(g) Location of crossing sites in the battalion zone of action, determined by width, depth, and current of the river; existence of sandbars, reefs, islands, dams, or other obstructions; steepness and height above water of both riverbanks; and approaches to both riverbanks.

(h) Existence of fords, ferries, bridges, and old bridge sites.

(i) Exact location of concealed attack positions on the near bank of the river. These should be readily accessible to trucks and identifiable at night.

(j) Concealed routes which lead directly from the attack positions to the crossing sites on the near bank.

(k) Routes from the assembly areas to the attack position. For daylight movement, concealed routes are selected. For movement during darkness, well-defined and easily traversed routes are selected.

d. Planning.--There are several similarities in the attack of a riverline and amphibious operations. (See chap. 2, sec. II.) In both, planning is in inverse order, from the objective to embarkation. Both amphibious and river crossing operations require more detailed planning than normal ground combat. River crossing operations also require landing plans and embarkation plans.

(1) Considerations.--While several of the general planning considerations set forth below are usually evaluated and determined by higher echelon, when the battalion is part of a larger force, they nevertheless should be considered at the battalion level.

(a) Select a desirable bridgehead.

(b) Estimate strength and type of troops necessary to hold the selected bridgehead.

(c) Determine time required for seizing the selected bridgehead.

(d) Consider seizure of intermediate objectives in reverse order.

(e) Estimate strength and allocation of assault troops.

(f) Estimate the quantity and type of fire support required.

(g) Determine most advantageous crossing areas.

(h) Determine amounts and types of crossing equipment, engineer and other troops required, and estimate construction times at which ferries and bridges will become usable.

(i) Determine special training necessary.

(j) Determine logistic support requirements.

(k) Determine the availability of helicopters for use in transporting troops; for support in moving pontoons and bridging equipment; and for the buildup of ammunition, fuels, and supplies.

(l) Determine the availability of landing craft, amphibious vehicles, rafts, and other amphibious means.

(2) Plans.--Based on the mission assigned by the regiment or higher echelon, and on the additional information secured through reconnaissance, the battalion commander prepares a detailed plan. This plan includes:

(a) Coordination with adjacent units.

(b) Formation for the crossing.

(c) Zones or frontages, initial objectives of assault companies, and determination of unit crossing sites.

(d) Allotment of amphibious vehicles to units and assignment of other means of crossing.

(e) The place and time of contact between subordinate unit commanders.

(f) Missions, firing position areas, targets and sectors of fire, and principal directions of fire for organic and supporting weapons; conditions under which fire will be opened.

(g) Time of crossing of tank elements and their tentative employment after crossing. This includes crossing means: bridges either existing or to be constructed, landing ships, or by fording after being waterproofed.

(h) Designation of attack positions with routes and plan for movement of units thereto, including provisions for guides and time schedule.

(i) Establishment of local security on the far bank to protect the construction of foot bridges.

(j) Antiaircraft, if available, and antitank security during and after the crossing.

(k) Employment of the battalion organic motor vehicles, including timely request for waterproofing, if fording is feasible.

(l) Logistic plan, including special measures to be employed.

(m) Evacuation plan, including establishment of aid stations, early crossing of a portion of the medical detachment, and method of evacuating casualties from the far bank of the river, to include employment of amphibious vehicles and helicopters.

(n) Communications within the battalion and to the regiment.

(o) Axis of communication, location of the command post on the near bank, and tentative locations on the far bank.

(p) Initial location of the battalion commander, his time of crossing, and his tentative location on the far bank of the river.

(3) Fire Support Plan

(a) When the initial assault is to be conducted at night, a silent crossing may achieve surprise. However, a fire plan should be prepared so that fires can be delivered on call.

(b) For a daylight assault, the maximum amount of fire support is planned for each phase of the operation. The area involved should be isolated by fires, to include artillery, missiles, air, smoke, nuclear, naval gunfire, mortars, and tanks.

(4) Communications

(a) Requirements.--A river crossing operation requires an extensive, reliable, and secure system of rapid communications coordinated at all levels to control the various elements participating in the crossing.

258-888 O - 78 - 23

(b) Problems.--Several communication problems arising in river crossing operations are brought about by:

1 The probable interruption in optimum communication efficiency during the initial phase of the operation caused by the water obstacle.

2 The physical limitation on communication means other than radio and visual.

3 The desirability for rapid installation of radio relay on the far shore.

4 The vulnerability of electrical communication equipment to water.

5 The necessity for separation of command and control agencies into echelons and the provision of communication means to each.

(c) Means.--The nature of river crossings requires an almost complete reliance on radio communications during the assault. Radio is ideal in that it requires no physical link between stations and can be used over long distances between rapidly moving units. This reliance on radio is complicated by the heavy operational traffic loads, frequency limitations, vulnerability to enemy interference, and rigid security requirements. This burden imposed on radio communications necessitates the establishment of telephone communications as rapidly as possible after the assault forces land on the far shore, to include laying of underwater cables to connect with units on the near shore.

e. Conduct of River Crossing

(1) Troops move from positions well in rear of the river to the near edge which is the line of departure. Every effort is made to maintain a continuous flow of personnel with no appreciable stopping on the near bank. Although possible when using amphibious vehicles, it may not be possible when boats are used. In such a case, attack positions, where boats are picked up, are selected by the battalion commander. Positions on the near bank from which boat teams can deploy and launch their boats are also required. Units do not attempt extensive reorganization on reaching the far bank, but move rapidly away from the river to eliminate remaining enemy and to gain dispersion. The LVTP is well suited to transport troops inland rapidly. As the attack progresses, reorganization is continuous until, eventually, the units are reconstituted in the formation necessary to continue the attack. The attack then proceeds as described in paragraph 3308.

(2) The reserves remain on the near bank until sufficient ground has been gained to preclude massing on the far bank. They are prepared to move to the far bank quickly if the enemy's countermeasures threaten the success of the operation.

(3) All available crossing means are used to achieve maximum speed in the crossing and the subsequent exploitation of the bridgehead, and to reduce the criticality of any one crossing means. Aircraft, particularly helicopters, and amphibious vehicles are capable of moving fire support units, reserves, and supplies to speed the buildup on the far bank.

3703. DEFENSE AT A RIVERLINE

a. General

(1) The mission of the infantry battalion, as part of a larger force, in the conduct of a defense at a riverline, is determined by higher echelon.

(2) Rivers constitute obstacles to an attack and natural lines of resistance for defensive and delaying action. When a river is defended, its full value as a military obstacle is developed. The use of a river as an obstacle often compensates for numerical inequality. It frequently enables the commander to practice economy of force by assigning abnormally wide frontages to some units while massing his main forces for action elsewhere. The defense of a riverline is conducted on the same general principles as any other form of defensive combat, the presence of the obstacles increasing the capabilities of the defending forces.

b. Reconnaissance.--Defense of a riverline requires aggressive reconnaissance by all agencies. The reconnaissance is both technical and tactical and, in both cases, includes careful consideration of the terrain as it affects the actions of the enemy and the measures for the defense. Engineer reconnaissance will determine probable crossing sites so that they can be defended with greater force. The strength of the riverline increases with width, depth, and current. Other considerations are the banks, the approaches to the banks, the topography of the adjacent terrain, and the road net on both sides of the river. Engineer reconnaissance also determines the bridges and fords to be destroyed and the means required for destruction. Tactical reconnaissance on the friendly side of the river determines suitable defensive positions, positions in readiness for reserves, and routes to be used by mobile reserves in counterattacking successful crossings. Reconnaissance on the enemy side of the river gains early information of the strength, composition, disposition, routes, and rate of advance of hostile forces, and determines the location of local assembly areas for troops, bridging equipment, and probable crossing sites.

c. Preliminary Operations.--Covering forces remain on the enemy's side of the river to maintain contact with the enemy, delay his advance, and determine his assembly positions and probable crossing places. When forced to retire, the advance elements withdraw across the river. Timely measures are taken to destroy the crossings after the last elements have withdrawn across the river, or at such earlier time as may be necessary to prevent the crossings from being seized by the enemy. On wide rivers, after the covering force has withdrawn, contact with the enemy may be maintained by use of troops in amphibious vehicles. Positive measures by commanders are taken to ensure the complete destruction of all bridges and fords which cross the river within their respective sectors. The actual destruction is usually a mission of the unit engineer. Unless specifically forbidden by higher authority, any bridge or ford may be destroyed. When it is considered desirable to preserve such crossings until the last possible moment, full authority to complete their destruction is delegated to a member of the bridge or ford guard. When it is apparent that the crossing cannot be kept from falling into enemy hands, it is destroyed.

d. Types of Defense

(1) Mobile Defense

(a) Commanders at levels higher than battalion may employ the mobile defense when adequate forces are not available to occupy the assigned frontage, when the enemy has a nuclear capability, when the enemy is capable of launching a crossing at several sites, or when a counter-offensive is to be initiated by the defending force. The mobile defense along a major river is designed to canalize the attacker while his forces are astride the river and to destroy him by counterattack. This type defense is organized with units deployed in strongpoints across the forward defensive area and with units of the striking force deployed in depth. Strongpoints across the forward defense area are organized on terrain which controls the avenues of approach from the river. This type of defense entails the employment of observation posts disposed across the entire defense sector along the riverline. The observation posts are located so as to obtain the best observation and fields of fire. Observation should permit complete surveillance of the river, the far bank, and the approaches to the far bank.

(b) The strength of observation posts will vary. In some instances, they will consist of only a fire team. On the other hand, if probable crossing sites can be predicted, observation posts at these points may consist of stronger detachments, such as a rifle platoon reinforced with machineguns, Dragons, and tanks. Forward air controllers and forward observers from artillery and mortar units firing in support of the defending force are located with the observation posts. The mission of the observation posts is to force the enemy to disclose the full power of his supporting fires, to discover the location of hostile crossings, and to provide early warning so that the striking force can counterattack before the enemy establishes a firm hold on the near bank. The mission of the strongpoints in the forward area is to destroy, slow down, stop, or repel the advancing enemy. They are so located that they canalize the enemy into areas of the defender's choice. Assisted by observation posts and strongpoints in contact, the striking force completes the destruction of enemy forces by offensive action. Strongpoints across the forward defense area which are not engaged may also take part in the counterattack. This counterattack should strike the enemy as soon as the hostile main crossing is recognized and while the enemy is astride the river.

(2) Area Defense of a Riverline.--When the enemy is to be stopped at the riverline, an area defense is used. The major portion of the defending force is disposed along or near the riverbank and all means are taken to prevent the enemy from crossing the river. The defensive structure is similar to a conventional position defense. However, with the river serving as an effective obstacle in front of the defensive position, wider frontages may be assigned to defending units. The location of the forward edge of the battle area may be along the riverbank, to the rear of the riverbank, or a combination of the two, depending on the defensive characteristics of the terrain along the river. It is desirable that the defense positions be close enough to the river so that the near bank can be covered by rifle and machinegun fire.

e. Fire Support Plan

(1) The fire support plan developed when a frontline battalion is defending a river from a position defense is similar to one used in

other terrain. Fires are planned to cover possible enemy assembly areas and likely avenues of approach to the far bank. If the FEBA is located on the near bank, final protective fires are placed on the far bank, and final protective lines of machineguns are placed so as to graze the river or the far bank. If the FEBA is located to the rear of the riverline, final protective fires are planned forward of the FEBA just as in any area defense. Fires within the battle area are planned to cover likely areas of penetration and approaches into the rear of the battle area.

(2) Tanks are used both to support counterattacks and to provide for antitank defense. The battalion commander considers the critical armored approaches into his area. He evaluates and determines the effectiveness of the river as a tank obstacle. An enemy tank approach to the river may be of little value as an assault route due to the nature of the riverbanks or the lack of accessible routes on the defended side of the river. These routes may, however, provide access to areas from which hostile tanks or other direct-fire weapons can support a crossing by other elements. The defender selects and prepares tank primary firing positions in the forward areas where they can engage hostile tanks that are supporting a crossing or bridgehead. Some of these positions may be occupied initially, or the tanks may be held in positions of readiness until the location of the attempted crossing is known. The decision to occupy firing positions or to remain in a position of readiness will depend on assigned frontage, the condition of the terrain in the battle position, the position areas available, the location of crossing sites, and the number and location of firing areas available to enemy tanks. Tanks may engage enemy personnel, boats, equipment, bridging operations, or other targets when not engaged against hostile supporting tanks or similar weapons.

(3) The Dragon is employed in positions covering the river and the far bank. They are sighted to cover crossing sites and enemy position areas for direct-fire weapons firing in support of the crossing. Due to the extended front and the general condition of terrain along a river, it may be necessary to employ the Dragons singly rather than by section. In addition to their normal antitank roll, these missiles are employed against boats and other materiel targets.

f. Security Measures

(1) Maximum security measures are taken by the defender despite the existence of a major obstacle between his forces and the enemy. Security forces have normal security missions which include detecting enemy concentration areas for river crossing operations, providing advanced observation for indirect fire weapons and tactical air, and blocking enemy attempts to reconnoiter the river and the area in the vicinity of the river.

(2) A frontline battalion may be called upon to establish a combat outpost forward of its position. The fundamentals involved are the same as in conventional defense. However, there are other factors that the commander should take into consideration. When the defense is along the riverbank, the combat outpost is established on the enemy side of the river. The withdrawal plans for the combat outpost should provide both a primary and alternate means of crossing the river. When the combat outpost is established on the near bank, aggressive patrolling is executed on the enemy side of the river and contact is maintained with other security forces across the river. When the FEBA is on the riverbank, frontline companies normally maintain local security elements on the far bank. When the FEBA is back of the riverline, local security may be established either on the

far bank or near bank depending upon the distance to the riverbank and the location of the combat outpost. Plans for withdrawal of local security elements across the river include utilization of helicopters or amphibious vehicles in case the bridges are blown or fords are mined.

g. Conduct of the Defense

(1) The conduct of the defense of a river must be aggressive. The defending force should guard against a false sense of security because of the obstacle afforded by the river. The river aids the defender, but it is not a defense within itself. The advantage offered by the river should be exploited to the maximum.

(2) The defender utilizes the security echelon to keep the attacker under constant observation and fire as he approaches the river. Security forces place long-range fires on the enemy to inflict maximum casualties, to disorganize his attack, and to effect maximum delay. If the enemy is successful in reaching positions on or near the far bank, observation and fires are intensified. When forced from their position on the far bank, security elements cross the river using fords, bridges, amphibious vehicles, or helicopters. When the last element of the security force has made its crossing, all crossing means which may be used by the enemy are destroyed.

(3) When the enemy reaches the far bank, air reconnaissance, observation posts on the near bank, and reconnaissance patrols to the far bank are used to detect the concentration of enemy troops and materiel. Fires are placed on known or suspected concentrations, avenues of approach, and supporting weapons.

(4) When the enemy begins movement from his attack positions to the river, fires are intensified. Air support is used to the maximum. The river serves as an excellent reference line for close air support. Direct-fire weapons open fire on targets as soon as they come within effective range. Every effort is made to stop the enemy before he reaches the water's edge.

(5) When the FEBA is located to the rear of the riverline and the combat outpost is located on the near bank, concentrations of mortars and artillery fire as well as fires of the combat outposts are delivered on the enemy assault echelons as they approach the far bank. If these fires do not prevent the enemy from effecting a crossing, the combat outpost withdraws under the cover of fire without engaging in close combat with the enemy forces. The fires of all weapons, to include indirect fires from weapons located within the battle area, are concentrated on the landed enemy, and the elements of the enemy force afloat or on the far bank. If the enemy begins an assault on the FEBA, it is necessary to deliver final protective fires.

(6) If the enemy penetrates the FEBA, both direct and indirect fires are executed against the penetration to stop his forward movement and to destroy or eject him. If these fires do not destroy or force the withdrawal of the enemy force in the penetrated area, a counterattack is made. Planning and conduct of the counterattack by a force defending on a riverline is the same as that employed on any other terrain. However, the mission is to destroy or eject all enemy on the defender's side of the river which will entail the movement of the maneuver force forward of the battle position if it is located in rear of the riverline. Such action requires careful coordination of supporting fires.

Section VIII. FIRE SUPPORT PLANNING AND COORDINATION

3801. GENERAL

This section discusses fire support planning and its coordination for both offensive and defensive operations. The basic principles of fire support planning and its coordination are the same for the amphibious operation as they are for subsequent operations ashore.

3802. IMPORTANCE OF FIRE SUPPORT COORDINATION

a. General.--Fire support is one of the principal resources available to the commander. The effectiveness with which he employs the available fires may be decisive. Its importance is emphasized by the increased lethality and availability of a variety of fire support means with which the outcome of combat can be influenced.

b. Principles.--The principles, organization, and techniques of fire support coordination are designed to ensure maximum effectiveness in the use of fire support by providing for coordination of available fire support means among themselves and for integration of all fire support into the plan of operations. This coordination is accomplished without adversely affecting any of the present methods used in the rapid delivery of fires essential to the support of operations.

3803. FIRE SUPPORT COORDINATION CENTER

a. General.--The commanders of infantry battalions, infantry regiments, divisions, and larger forces establish a fire support coordination center to assist them in the planning and coordination of fires. The FSCC is a single location in which are centralized communication facilities and personnel required for the coordination of all forms of fire support. In amphibious operations, the commander amphibious task force coordinates support through his coordinating agency known as the supporting arms coordination center.

b. Responsibilities

(1) The infantry battalion commander is responsible for the coordination of supporting fires within his zone of action and for coordinating them with the operations of his unit. Through combat orders, policies, priorities, or individual decisions, he ensures that all available fires are used to best assist in the accomplishment of the mission.

(2) The infantry battalion S-3 exercises unit staff supervision over coordination of the supporting fires with the plan of maneuver and the integration of the plan for supporting fires into the plan of defense. He assists his commander in establishing policies and priorities on which fire support plans are based. Based upon the desires of the battalion commander, the fire plans of the various supporting arms may be published as tabs to the fire support appendix to the operations annex of the operation plan or each published as a separate appendix to the operations annex. During the operation, the S-3 continues to exercise staff supervision of the FSCC. He enters into the details of fire support coordination as required by the situation.

(3) Normally, the artillery liaison officer is the FSC in the infantry battalion. This officer, as advisor to the commander on fire support matters, functions in a manner similar to a special staff officer and handles the details of fire support coordination.

3804. PRINCIPLES OF FIRE SUPPORT COORDINATION

a. General.--The employment of the fires of supporting weapons must be coordinated to provide for economical employment with maximum effectiveness and the requisite degree of safety. Accordingly, fire support coordination is achieved through adherence to the following basic principles:

(1) Unnecessary duplication of missions is avoided.

(2) Executed mission does not unduly endanger friendly forces.

(3) Mutual interference between different means of fire support is reduced to a minimum.

(4) Each means of support is employed on missions best suited to its capabilities.

(5) Control of fires is accomplished by the lowest echelon possessing adequate personnel and facilities.

(6) Coordination is accomplished at the lowest echelon concerned and capable of effecting coordination of the particular mission.

(7) A common system of target designation is used by all supporting arms.

b. Duplication of Fires.--Fires on targets of opportunity are usually delivered by the most readily available and effective means. Obviously, it is desirable to use the most effective means. Unnecessary duplication should be avoided. However, intentional duplication may be required. It will frequently be necessary to use more than one fire support means against a target. Against a mobile target such as armor, for example, artillery may be used initially, because it is readily available, to be supplanted by air, a more effective means, when it becomes available.

c. Safety.--Measures necessary to safeguard friendly troops, aircraft, and installations from friendly fires are implemented as necessary. FSCC's at each echelon should be on the alert to guard against the possibility of endangering friendly troops, aircraft, and installations. However, the imposition of restrictive measures which limit the use of the fires of supporting arms should not be imposed by higher echelons contrary to the recommendation, or lack of recommendation, of a lower echelon unless the need is clearly indicated.

d. Restrictive Measures.--Interference by supporting arms with each other and with the maneuver of friendly troops can be avoided by the use of limiting or restrictive measures, when necessary, and through proper planning and supervision of execution of supporting fires. Supporting arms representatives in the FSCC must be aware of the fires of all supporting arms being delivered, or to be delivered, and the activities of friendly forces. (See fig. 60.)

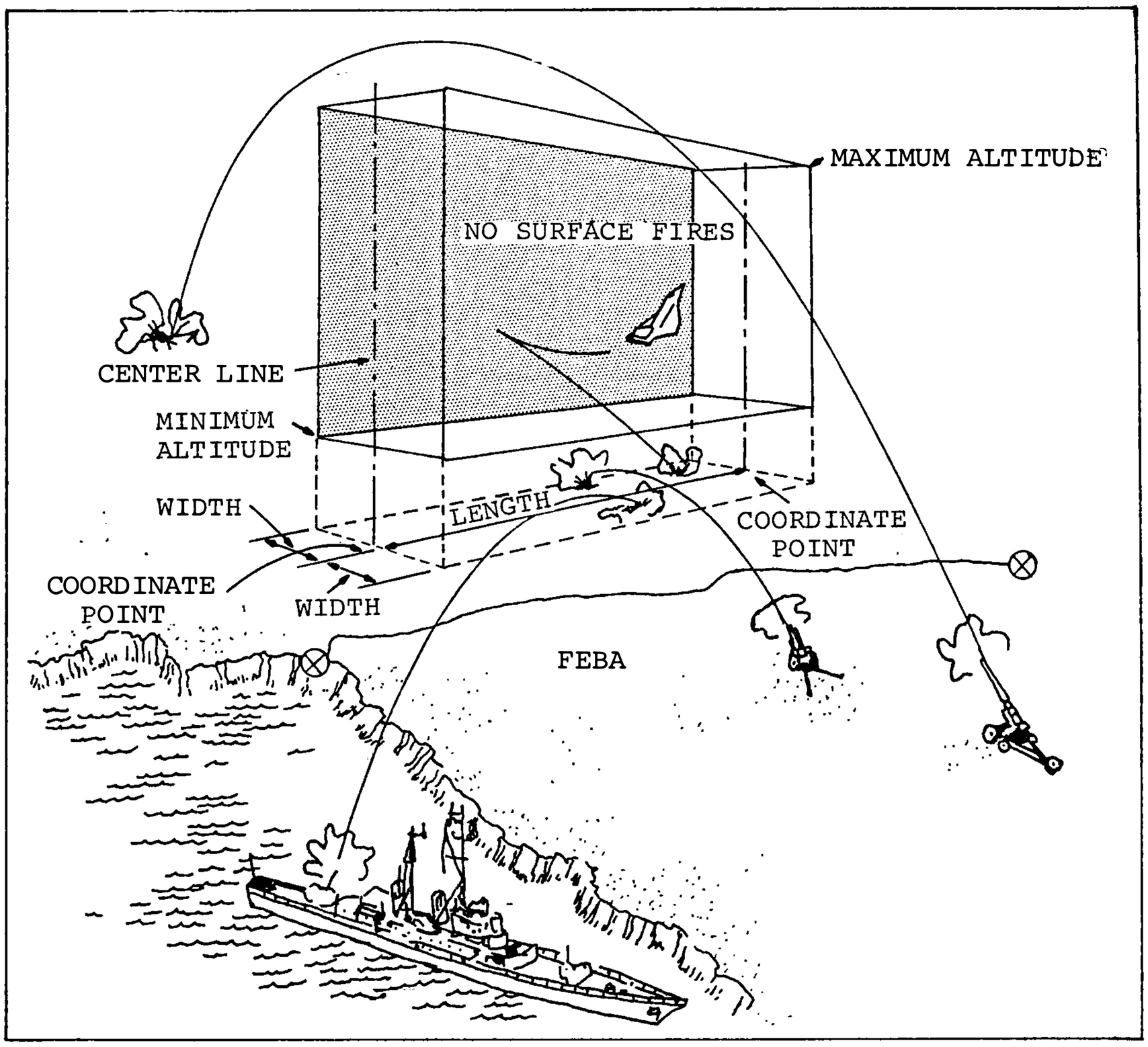

Figure 60.--View of a Typical Airspace Coordination Area.

e. Trajectory Limitations.--Trajectory limitations are imposed on naval gunfire, and artillery, to permit fire support without interrupting helicopter operations. When possible, naval gunfire ships and artillery units are positioned on each side of helicopter approach lanes in order to permit continuous fire support, a system of flight restriction, naval gunfire, and artillery trajectory limitations may be invoked. Such a system may require that over the approach and retirement lanes, helicopters normally operate at altitudes less than 1,000 feet with high-performance aircraft operating at altitudes exceeding 15,000 feet, thus affording safe ordinates for surface support weapons between 1,500 and 14,000 feet. This plan does not affect the use of airspace coordination areas previously discussed. By using trajectory charts, the naval gunfire or artillery officer can ascertain the areas in which each fire support ship or artillery unit is able to place fire and thereby has an immediate guide for assigning ships to attack critical targets. (See fig. 61.)

f. Type of Fires.--Primary consideration is given to furnishing the type of fire support requested. Rifle company commanders request fires directly to the fire support agencies through their forward observers,

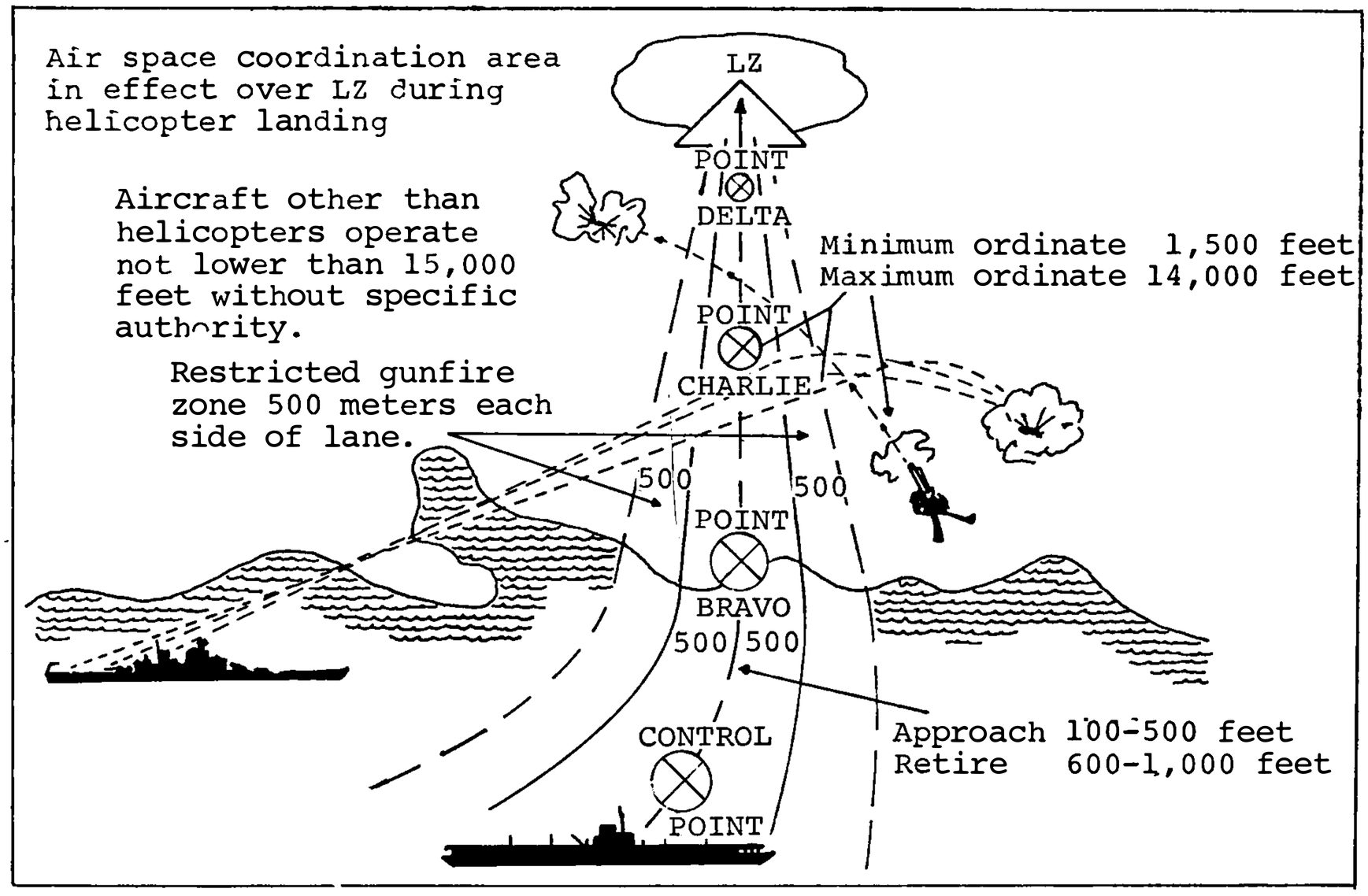

Figure 61.--Trajectory Limitations Across Helicopter Approach Lanes.

forward air controllers, and naval gunfire spotting team observers. When time permits, or other considerations dictate, it is within the responsibility of the FSCC to recommend the substitution of a fire support means other than that requested where the recommended weapon is obviously better suited for the attack of the target. The FSCC should never arbitrarily deny, interfere with, or substitute a fire support means. A recommendation may be made to the battalion commander, or concurrence obtained from the company commander who made the request. In requesting fires on targets of opportunity, time may dictate the most readily available rather than the most effective weapon.

g. Control of Fires.--Control of fires is accomplished by the lowest echelon having the personnel and the communication equipment required. Forward observers, forward air controllers, and naval gunfire spotting team observers request fires directly from the artillery, air, and naval gunfire agencies authorized to respond. FSCC's monitor the request and the execution of fires. They do not interfere, however, unless modification or cancellation is necessary.

h. Coordination.--The fires of supporting arms are coordinated at the lowest echelon able to effect complete coordination of the fire support mission. Coordination must be effected rapidly in the attack of targets of opportunity. Prime considerations are troop and aircraft safety. Coordination begins at the rifle company and is effected by the company commander and his forward observers, forward air controller, and naval gunfire spotting team observer. Only when the effects of a fire support mission impinge upon or extend across unit boundaries is it necessary for a common superior to effect coordination between the units involved. Coordination

agencies require current information regarding the scheme of maneuver, location of troops, boundaries, characteristics of the fire support delivery agency, and knowledge of the effects of ordnance to be delivered.

i. Target Designation.--A common system of target numbering must be employed by participating fire support agencies. When critical areas are designated as locations on which the commander desires that targets be planned, the number assigned to identify each of these locations should be the same for all means of fire support, organic, attached, or supporting. This will materially ease massing of fires and the platoon or company commander's task in calling for fire on planned targets. He has only one number to remember or determine, no matter what type or caliber of fire is desired. Common target numbers should be disseminated down to include platoons.

3805. FUNCTIONS OF THE FSCC

a. General.--To assist the commander in the use of fire support, the FSCC performs the following functions:

(1) Continually makes plans and allocates, coordinates, and integrates the several fire support means in accordance with the directives, policies, and priorities of the commander.

(2) Functions as the commander's focal point for target intelligence and target analysis.

(3) Evaluates and coordinates the requests received for additional supporting fires.

(4) Prepares the coordinated requirements for fire support. It coordinates, initiates request for, and obtains additional supporting fires, when required.

(5) Keeps the commander and staff informed of the capabilities of, and the actual support rendered by, the fire support agencies.

(6) Advises the commander and staff as to the most efficient and effective employment of the available fire support.

(7) Coordinates and develops the fire support plan for the commander based on his policies, plans, and priorities and in accordance with the scheme of maneuver or plan of defense.

(8) Recommends and implements approved policies concerning safety measures to protect friendly troops, aircraft, vessels, and installations from friendly fires.

(9) The FSCC is not a link in the chain-of-fire requests. It does not interfere with requests for fires from the forward observers to the fire support units except in cases involving the safety of troops, to avoid duplication in attack of targets when appropriate, or which fires may interfere with or hinder the battalion overall scheme of maneuver.

b. Preparation of Fire Support Plan.--The primary benefit of an ESCC to the commander is its function in fire support planning prior to and during an operation. The preparation of the fire support plan by the

FSCC relieves the commander of the details of coordination. In planning scheduled fires to support an operation, the FSCC recommends the amount, type, and caliber of fire to be placed on each target or area. These recommendations are based upon the desires of the commander, the necessity for attacking several targets simultaneously, and the consideration of the nature of the targets to ensure that sufficient, but not excessive, fires are placed on the targets to neutralize or destroy them.

c. Monitoring.--The requirement to promptly attack targets of opportunity prevents forwarding immediate requests for fire through a succession of FSCC's. Such requests by a forward observer must be sent directly to his own fire direction center. These requests must be monitored by the battalion FSCC, however, so that the battalion commander can properly coordinate his supporting arms with his maneuver elements. Such monitoring will also ensure that consideration is given to augmentation of the fire and that forward observers are supervised by the responsible fire support representatives.

d. Flexibility.--All scheduling of fires in support of an operation should include the commander's authority for his FSC to discontinue scheduled fires on certain targets in order to attack targets which are of greater importance to the supported unit.

3806. FSCC PERSONNEL

The membership of the FSCC represents the type of fire support means available. The personnel comprising the battalion FSCC and their duties may be as follows:

a. Artillery Liaison Officer.--The artillery liaison officer is usually the fire support coordinator and, as such, is the principal advisor to the battalion commander and staff on all fire support matters. He coordinates the planning, allocation, and integration of all supporting fires and the preparation of the battalion fire support plan. He prepares the artillery portion of the battalion fire support plan.

b. Air Liaison Officer (Assistant S-3 (Naval Aviator)).--The air liaison officer, an organic member of the battalion, prepares the air support portion of the fire support plan. He coordinates the employment of aviation units in support of the battalion's ground operations and works closely with the fire support coordinator.

c. Naval Gunfire Liaison Officer.--The naval gunfire liaison officer prepares the naval gunfire support portion of the battalion fire support plan. He coordinates the fires of supporting ships with the fire support coordinator.

d. 81mm Mortar Platoon Representative .--The mortar platoon representative may be the platoon commander or his lieutenant assistant. He advises the battalion commander, the staff, and the FSCC on mortar support. He monitors fires requested by mortar forward observers and keeps the fire support coordinator informed of fires being delivered by his platoon.

e. Others.--Other representatives of units providing fire support for the battalion such as tanks, antitank, and attached AA may be members.

3807. TARGET INFORMATION AND INTELLIGENCE

Only through the medium of good target intelligence can maximum effect of firepower be achieved. All means available for locating the enemy and his weapons are effectively utilized, and all pertinent information is rapidly disseminated. Principle means of acquiring target information and intelligence are frontline unit commanders, artillery forward observers, naval gunfire spotting team observers, FAC's, 81mm mortar observers, tactical air observers, and airborne artillery observers. Information is disseminated to the higher echelon, the battalion staff, and lower and adjacent units.

3808. METHODS OF UTILIZATION OF FIRE SUPPORT UNITS

a. General Support.--General support is the employment of an artillery unit or fire support ship whereby the commander retains control of the support rendered. The commander uses this method to support all, or a major portion, of his command. This method of employment offers maximum flexibility, efficient coordination of units, and the maximum capability to mass fires on a particular target. Artillery units or fire support ships placed in general support of a unit are assigned missions and controlled by that unit.

b. Direct Support.--Direct support is a method of employing an artillery unit or fire support ship in which the unit/ship receives and executes missions directly on call from the supported unit. When in direct support of a maneuver element, the artillery unit or fire support ship commander retains tactical control of his unit and employs it to provide maximum fire support at all times to the supported unit. The supporting arm remains under the command of its higher headquarters. An artillery unit or fire support ship is normally placed in direct support when it is desirable to allocate its fires exclusively to a specific maneuver element.

c. Reinforcing.--Reinforcing is the tactical mission assigned to an artillery unit when it is required to augment the fires of another firing unit on call. The reinforcing unit establishes communications and liaison with the reinforced unit. The reinforcing commander retains command of his unit; however, the reinforced firing unit controls its fires and tactical displacement.

d. General Support-Reinforcing.--General support-reinforcing is an assignment of a dual role of general support while reinforcing the fires of a fire support component of the landing force. The general support-reinforcing unit establishes communications and liaison with the reinforced fire support unit and is prepared to answer calls for reinforcing fires. At the same time, the general support-reinforcing unit provides fires to the overall supported ground component.

e. Attachment.--Attachment is a status, not a tactical mission. Artillery attached to a force commander for an operation is under the command of the force commander to which attached and must be assigned a tactical mission by that commander. The force commander is further responsible for providing administrative and logistic support to the attached artillery. Normally, artillery units are not attached unless the artillery support requirement cannot adequately be executed through the assignment of a tactical mission, or unless control requirements dictate the establishment of a command relationship between the force commander and his supporting artillery commander.

3809. COORDINATED FIRE LINE (CFL)

a. General.--The coordinated fire line is a line beyond which conventional surface fire support means (mortars, field artillery, and naval gunfire ships) may fire any time within the zone of the establishing headquarters without additional coordination. It serves two purposes: giving artillery and fire support ships freedom to attack targets beyond it without obtaining approval or coordinating with the supported commander in whose zone of action targets are located, and providing the supported commander with an area in which his troops can operate without being unnecessarily endangered by friendly artillery and naval gunfire.

b. Location.--The location of the CFL is based upon such factors as the scheme of maneuver, patrol plans, and troop safety desires of the infantry commander.

(1) The CFL should conform to the maneuver being executed and the measures employed to control that maneuver, objectives, phase lines, and checkpoints. It is desirable that the CFL follow identifiable terrain features.

(2) If the CFL is located too close to maneuver units, it restricts maneuver.

(3) If the CFL is located too far from maneuver units, it restricts the full employment of supporting arms controlled by higher commands.

(4) Combat may frequently dictate an attack by a regiment with one or both flanks exposed. The trace of the CFL to cover exposed flank(s) provides protection from artillery and naval gunfire not controlled by the regiment and, at the same time, permits higher echelons to plan and conduct supporting fires in the area of the exposed flank(s).

(5) Normally, the trace of the CFL will be as recommended by the infantry battalions. A single, uninterrupted CFL for the entire regiment is not necesssary.

(6) Airstrikes short of the CFL must be requested or approved by the infantry battalion in whose zone of action a strike is to take place.

3810. FIRE SUPPORT COORDINATION LINE (FSCL)

a. General.--The fire support coordination line is a line beyond which all targets may be attacked by any weapon system (including aircraft and special weapons) without endangering troops or requiring additional coordination with the establishing headquarters. The effects of any weapon system may not fall short of this line. Artillery and fire support ships are free to engage targets short of this line but beyond the CFL without approval or coordination with the supported commander (see FMFM 7-1, Fire Support Coordination).

b. Location.--The FSCL is established by the commander landing force based upon recommendations of the ground and aviation component commanders. The ESCL should be a short distance beyond the farthest point to which the commander landing force intends to send patrols, penetration forces, or to maintain covering forces.

c. Control.--The supported commander requesting or approving an airstrike short of the FSCL will determine the degree of control required for aircraft on that particular target. That is, he will determine whether the aircraft must be under control of a forward air controller, or whether adequate control can be provided by a tactical air controller (airborne) or an air support radar team. In some cases, the nature and location of a target short of the FSCL may be such that aircraft can attack it without being under positive control of the FSC, TAC(A), or ASRT.

(1) Airstrikes short of the coordinated fire line must be cleared by the infantry battalion in whose zone a target is located, regardless of what echelon initiates the request.

(2) Airstrikes between the coordinated fire line and the fire support coordination line are cleared by the division FSCC, or the regimental FSCC if the regiment is the ground element of the landing force.

3811. RESTRICTIVE FIRE LINE (RFL)

The restrictive fire line is employed to regulate fires between converging forces. When established by the commander common to both forces in the linkup operation, neither force requests or delivers fires across a restrictive fire line without prior clearance from the other. As the linkup becomes imminent, the RFL is moved as close to the stationary force as possible to allow maximum freedom of action and maneuver of fire support to the linkup force.

APPENDIX A

EMPLOYMENT OF SCREENING SMOKE

1. GENERAL

a. Smoke is employed to reduce the effectiveness of enemy visual observation. As a consequence, the effectiveness of his fires is reduced.

b. Smoke produces an obscuring effect. Casualty producing and noncasualty producing smokes have a variety of applications on the battlefield in concealment and deception operations.

c. Smoke may be projected on or near enemy positions and observation points, or it may be emplaced on or near friendly positions. The selection of casualty producing or noncasualty producing smoke for use in projected screens is largely dependent upon the obscuring effect desired and weather conditions in the area.

2. TYPES AND CHARACTERISTICS OF SMOKE

a. General.--Smoke is the suspension of small liquid or solid particles in air. Basically, there are two methods of producing tactical smoke: by burning chemical compounds to produce suspended solids, and by thermal generation to yield suspended liquids through vaporization and condensation.

b. Fog Oil (SGF).--Fog oil is a special petroleum oil which, when vaporized, produces a dense white smoke. Since the smoke cloud is a cooling vapor, it tends to remain close to the ground rather than rise into the air if uninfluenced by atmospheric conditions. SGF normally has no adverse physiological effects on personnel and is not harmful to equipment. Fog oil smoke is produced by using smoke generators, thermal generator type smoke pots, or by the injection of the oil into aircraft jet engines for vaporization.

c. White Phosphorous (WP).--White phosphorous is a solid which burns when exposed to air, forming a dense, white smoke. WP rises rapidly in a pillar for 2 or 3 seconds, initially. As the smoke cools, the pillar collapses and merges with other collapsing pillars to produce a cloud formation. Burning particles of phosphorous are scattered by bursting munitions and can cause painful, slow healing burns to exposed personnel. WP is classified as a casualty producing agent. Plasticized white phosphorous (PWP), a form which incorporates a mixture of phosphorous, rubber jel, and xylene, is slower burning and yields a more persistent smoke with less pillaring. Both WP and PWP are normally delivered by burst type munitions from ground weapons or aircraft.

d. Hexachloroethane-Zinc Oxide Mixture (HC).--Hexachloroethane-zinc oxide mixture is a solid which, when burned, produces a grayish white smoke slightly less dense than that produced by white phosphorous. The smoke rises rapidly when uninfluenced by atmospheric conditions. It has an irritating and sometimes an incapacitating effect on unprotected personnel who are subjected to long exposure. HC smoke is delivered by using smoke pots, ground projected munitions, or aircraft bombs.

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e. Sulphur Trioxide-Chlorosulfonic Acid Solution (FS).--Sulphur trioxide-chlorosulfonic acid solution is a liquid which, when exposed to air, forms white smoke. The smoke is slightly less dense than white phosphorous smoke and mildly irritates the skin. It is highly corrosive and is normally delivered by aircraft employing chemical tanks.

f. Titanium Tetrachloride (FM).--Titanium tetrachloride is a liquid compound which can be atomized by detonation or by spraying. In high concentrations, the resulting smoke irritates the eyes, nose, and throat. FM has largely been replaced by FS. It is normally delivered by aircraft employing chemical spray tanks.

3. TYPES OF SMOKESCREENS

a. General.--Smokescreens are normally composed of gray or white smoke as these compositions provide the best available obscuring effects. Smoke may be used to obscure enemy visual observation in any combination of three ways, depending upon the effects desired and the resources available. Smoke may be:

(1) Projected on enemy observation points.

(2) Emplaced in friendly areas.

(3) Projected or emplaced in localities between friendly and enemy areas.

b. Smoke Blanket.--A smoke blanket is a dense concentration of smoke established over and around friendly areas to protect them from air visual observation and visual precision bombing attack or are established over enemy areas to protect attacking aircraft from air defense fire. Blankets can also be used at night to prevent enemy observed air attack by flare light. Use of a smoke blanket may restrict movement and activity within the screen and, when employed in friendly areas, may hamper operation of friendly troops. Smoke blankets are formed by the gradual merging of individual smoke streamers downwind from a predetermined smoke line. A smoke blanket forms in four phases as follows:

(1) Individual Streamer Phase.--For some distance downwind from the smoke line, smoke from the smoke sources travels as individual streamers. The streamers eventually merge. The distance traveled before merging depends upon a number of factors including:

(a) Wind speed.

(b) Air stability.

(c) Relationship of the smoke line to the wind direction.

(d) Distance between smoke sources along the smoke line.

(2) Buildup Phase.--When merging begins, the blanket begins to build in uniformity. However, for a distance downwind from the commencement of merging, the smoke lacks evenness of distribution and does not provide uniform coverage. The farther downwind from initial merging that the smoke progresses, the more it builds up in uniformity of coverage.

(3) Uniform Phase.--Buildup ends when a uniformly obscuring screen has formed. The uniform screen travels downwind maintaining a reasonably constant obscuring effect. The extent of the screen is directly related to:

(a) Smoke produced by each source per unit time.

(b) Distance between smoke sources.

(c) Meteorological conditions.

(4) Terminal Phase.--When the smoke cloud moves downwind, it becomes thinner as diffusion and the settling out of the larger particles progresses. The terminal phase is reached when effective screening is no longer possible.

c. Smoke Haze.--Smoke haze is a light concentration of smoke placed over friendly installations to restrict accurate enemy observation and fire but not dense enough to hamper friendly operations. Density of haze is equivalent to that of light fog. The positions of the smoke sources in the smoke line are regulated to produce the quantity of smoke desired. Sometimes the smoke sources are spaced farther apart or more distant from the area to be smoked than would be the case for the establishment of a smoke blanket. Usually they are placed in an irregular pattern. Additional smoke sources may be placed so as to increase the density of smoke around installations that need more screening. The field behavior of a smoke haze is essentially the same as that of a smoke blanket.

d. Smoke Curtain.--A smoke curtain is a vertical smokescreen placed between friendly and hostile troops or installations to prevent enemy ground observation. A smoke curtain is characterized by a dense vertical development of smoke rather than a horizontal blanketing effect over a large area. It does not prevent aerial observation since it is placed between friendly and enemy positions.

e. Obscuring Smoke.--Obscuring smoke is a smoke concentration placed directly on enemy positions to obscure enemy visual observation into friendly territory.

4. EFFECTS OF WEATHER AND TERRAIN

a. General.--The effects of weather and terrain are important considerations in using smoke. Since a smokescreen must be complete to be effective, those factors which tend to produce gaps in the screen must be carefully evaluated during planning. The success of a smoke operation in relation to the weather and terrain depends largely upon the following:

(1) Accurate analysis of meteorological data and the terrain in the initial estimate of the behavior of smoke.

(2) Observation of the screen to adjust the behavior pattern.

(3) Ability of the smoke units to maneuver the smoke sources into new positions as required.

b. Wind.--Wind speed and direction have a major influence on the effectiveness of a smokescreen. They are important considerations in estimating equipment and/or munitions requirements.

(1) Wind Speed.--Wind speed is an important consideration in determining how far the smoke sources should be placed from the area to be screened and the interval between sources along the smoke line. Smoke is not generally effective in wind speeds above 17 knots as strong winds disperse smoke clouds very rapidly. The optimum wind speed for establishing and maintaining a smokescreen varies with the type of smoke and, consequently, has a bearing on the selection of smoke to be used.

(a) HC smoke is most effective at wind speeds from 5 to 13 knots. In wind speeds below 5 knots, HC smoke drifts too slowly and rises too high to be effective.

(b) WP smoke is most effective at wind speeds from 9 to 17 knots. In winds below 9 knots, WP smoke pillars excessively. PWP smoke does not.

(c) SGF smoke is most effective in wind speeds from 5 to 11 knots. It is difficult to produce a screen of any appreciable depth if SGF is used in winds below 5 knots.

(2) Wind Direction.--The bearing from which the wind blows is the wind direction. The direction of the wind determines the position of the smoke line or the impact area for projected smoke. When WP is used for obscuring or casualty effect, the rounds are impacted directly on the target regardless of wind direction.

c. Air Stability.--Temperature gradient is used to predict the stability of the air. The gradient is measured by subtracting the air temperature one-half meter above the ground surface from the air temperature 4 meters above the ground surface. Smoke can be used effectively under all but extreme conditions of air stability. Temperature gradient conditions are expressed as follows:

(1) Lapse.--A lapse condition exists when there is a decrease in temperature with an increase in height above the ground. The air is unstable with much air turbulence. During lapse conditions, smoke tends to rise and diffuse rapidly. Lapse conditions are favorable for the production of smoke curtains.

(2) Inversion.--An inversion condition exists when there is an increase in temperature with an increase in height above the ground. During inversion conditions, smoke spreads and diffuses slowly. Inversion conditions are favorable for the production of a smoke haze or a smoke blanket.

(3) Neutral.--A neutral condition results from a state between lapse and inversion. A neutral condition tending toward lapse is suitable for the production of smoke curtains. When the neutral tends toward inversion, effective smoke blankets are feasible.

d. Humidity and Precipitation.--Humidity has only a slight affect on most smoke screens. However, the use of HC and FS in high humidity yields the greatest obscuring effects and density of these smokes. Light rain decreases visibility; therefore, less smoke is needed for concealment. Heavy rain and snow so reduce visibility that smoke is rarely necessary to provide concealment.

e. Temperature.--Temperature has no significant effect on HC smokescreens. SGF screens produced in temperatures above 80 degrees dissipate more rapidly than at lower temperatures. In extreme cold, smoke clouds last longer than they do under more temperate conditions.

f. Cloud Cover.--When the sky is covered with clouds, the atmosphere is moderately stable and conditions are generally favorable for producing smoke. As the amount of cloud cover decreases during the day, lapse conditions develop. A decrease in cloud cover at night produces inversion conditions.

g. Terrain.--The behavior of screening smoke is influenced by the contour and condition of the ground's surface and by vegetation. Although level, unbroken terrain is the most favorable terrain for the employment of smokescreens, smoke can be effectively employed on any type terrain. On flat, unbroken terrain and over water, smoke requires additional time to spread and merge. Obstructions tend to cause smoke to cover a larger area and to create a more uniform screen. Smoke tends to spread evenly in woods and is more persistent than in open areas. Smoke normally follows the contours of the earth's surface and effective screening can be achieved in rough terrain. Very rugged terrain consisting of large hill masses normally causes the air to develop strong crosscurrents which disperse smoke and create holes and nonuniformity in the screen.

5. SMOKESCREEN PLANNING

a. General.--The plan for a smoke mission should be as simple as possible. Coordination is required to insure that delivery and maintenance of the screen meets planned requirements and that the effects of the screen upon supporting arms and adjacent units is understood and taken into account in their plans. The decision to employ smoke rests with the unit commander. The nuclear and chemical weapons employment officer normally does the detailed planning under the supervision of the G-3/S-3. Essentially, planning consists of:

(1) Selection of the target.

(2) Determination of effects desired.

(3) Selection of the type of screen.

(4) Means of smoke production.

b. Target Selection.--The primary purpose of smoke is to deny the enemy observation or to deceive him. The purpose for which the smoke is to be employed largely governs the selection of targets.

(1) Employment of Smoke in Friendly Areas.--In friendly areas, smoke is used to deny information by preventing observation or to deceive by drawing attention to nonvital areas. Smoke is also used to conceal activities in the attack or defense.

(a) Dummy Screens.--A primary use of smoke is to assist in achieving combat deception. Attention can be drawn to an unimportant area by use of a smokescreen. The enemy may even be induced to attack such an area and expend effort without a commensurate gain or advantage. Dummy screens are also used in concert with smokescreens intended for other purposes to confuse the enemy as to friendly intentions.

(b) Concealment of Preparations for Combat.--Smoke is often used in friendly controlled areas to conceal preparations for combat. Plans for the concealment of these areas must include the use of dummy screens so as not to draw undo attention to the preparations. Smoke may be used to conceal:

1 Gun flashes.

2 Construction sites.

3 Main supply routes.

4 Troop maneuvers.

5 Assembly areas.

6 Attack activity.

7 Defense activity.

(c) Protection of Rear Areas.--Smoke may be effectively employed in defense of vital installations to minimize personnel casualties and to minimize damage from low level attacks by enemy aircraft. Rear area dummy screens are normally used in concert with protective screens for deception purposes.

(2) Employment of Smoke in Enemy-Held Areas.--Smoke may be used in enemy-held areas to blind hostile observation or to reduce the effectiveness of aimed fire. Care is taken in planning to avoid placing smoke where it reduces the effectiveness of friendly fires.

c. Smoke Production.--The locations of the targets and the availability of means are the primary determinants in selecting the means of establishing smokescreens. Logistic considerations are carefully analyzed in the selection of delivery means.

(1) Coverage in Friendly Territory.--Smoke coverage in friendly territory is best accomplished by using mechanical smoke generators or smoke pots. Normally, large area coverage requires the use of smoke generators.

(2) Coverage in Enemy Territory.--Smoke coverage in enemy territory is achieved by using projected smoke munitions or aircraft bombs. Large area coverage is most easily realized by employing aircraft smoke tanks. Consideration should be given to casualty producing means when projecting smoke into enemy territory.

(3) Coverage Between Friendly and Enemy Localities.--Often, the optimum locations for the establishment of smokescreens are between enemy and friendly positions. This is particularly true when establishing smoke curtains. Such screens may be emplaced by using smoke generators or pots when the tactical situation permits. When the situation does not permit or the means are not available, the smoke is projected or delivered by aircraft bombs or spray tanks.

(4) Selection of Methods.--The selection of the best method for producing smoke in a particular operation is affected by a number of considerations. Establishment and maintenance of a screen is often undertaken by using a combination of methods. The primary influences on the best method include:

(a) Tactical situation.

(b) Effects desired.

(c) Weather conditions.

(d) Terrain.

(e) Availability of smoke munitions.

d. Determination of Effects Desired.--The commander's decision to employ smoke against selected targets results in a determination of the purpose for which smoke is to be employed in each area; i.e., to deny observation, to reduce observation, or to deceive the enemy. An effective smoke plan almost always employs dummy screens for deception purposes. Once the purpose of a specific screen is established, the following determinations are made:

(1) Size of screen required.

(2) Duration of screen effectiveness.

(3) Effects of weather and terrain.

(4) Effects on own unit activity.

(5) Effects on friendly adjacent units.

(6) Effects on supporting units.

e. Type of Screen.--The type of smoke screen to be employed; i.e., blanket, curtain, haze, or obscuring smoke, is determined after targets have been selected and determination of effects desired has been established. The type of screen planned is influenced by the following:

(1) Purpose of the screen.

(2) Location of the screen.

(3) Effects desired.

f. Smokescreen Established and Maintenance.--FM 3-50, Chemical Smoke Generator Units and Smoke Operations, contains guidance for determining amounts of smoke required for establishing and maintaining screens when using smoke generators or smoke pots. Since screens may be required for prolonged periods, plans must provide not only for their establishment but for their maintenance as well. The best means for maintaining a screen may not necessarily coincide with the best means for its establishment.

6. SCREENING SMOKE IN THE AMPHIBIOUS OPERATION

a. General.--The characteristics of screening smoke make it an effective means of inhibiting enemy reaction to the amphibious operation. Careful planning and coordination is required to ensure the effective employment of smoke without adverse affects on the amphibious task force's ability to project combat power ashore. Screening smoke has a wide variety of applications in the amphibious operation ranging from coverage of the transport area to support of the attack inland.

b. Responsibility and Control.--The commander amphibious task force is responsible for the development of the smoke plan. The commander landing force advises the commander amphibious task force as to the offensive and defensive requirements of the landing force, as well as smoke requirements in support of the ship-to-shore movement. The commander amphibious task force controls the use of smoke employed in support of the ship-to-shore movement and for screening of task force elements at sea. He also controls smokescreens employed as deception measures when the deception is aimed at deceiving the enemy as to location or time of the landing. The commander landing force controls the use of smoke employed in support of the landing force ashore whether it is provided by his own weapons, by naval gunfire, or by air support. The commander landing force's control includes control of smoke employed as a deception measure in support of the landing force plan of attack.

c. Screening the Transport Area.--Curtain screens are used in the transport area to reduce the vulnerability of amphibious ships and craft to visually directed shore batteries. Obscuring smoke is established and maintained on known and/or suspected observation posts. During periods of reduced visibility, particularly at night, smoke blankets may be employed to reduce vulnerability to enemy air attack. Smoke blankets used for this purpose during full daylight are not normally effective as extremely large amounts of smoke are required to produce the blanket.

d. Screening the Waterborne Ship-to-Shore Phase.--The waterborne ship-to-shore movement can be effectively supported through the judicious use of smoke. Reducing the effectiveness of enemy frontal and/or flanking observation and fires is most often the purpose for employing smoke in support of the ship-to-shore movement.

(1) Screening the Flanks.--With an onshore wind or when the wind blows from seaward to land at a favorable angle to the beach, both flanks of the beach may be screened. Even when an offshore wind is blowing, screening of both flanks is possible provided that the wind direction is near normal to the beach line. Flanking screens are most often established by laying smoke curtains extending to seaward on the flanks of the beach. When conditions are not favorable for the employment of flanking smoke curtains, obscuring smoke may be used against enemy observation posts and positions located on key terrain features dominating the flanks of the beach. Care must be taken to ensure that the use of obscuring smoke does not unduly interfere with the attack and early seizure of the dominant terrain features.

(2) Screening the Beach Front.--Smoke curtains and obscuring smoke may effectively support the waterborne ship-to-shore movement and protect the assault waves from enemy frontal observation and fire. With a favorable onshore wind which will move the smoke inland across the beach, smoke curtains may be established in front of the assault waves. In less favorable flanking wind conditions, frontal screening is possible if the curtain is established upwind from the beach and is shifted inland as the assault waves land and advance. Obscuring smoke may be used with almost any wind direction against enemy observation posts and positions on key terrain features dominating the beach area. The use of obscuring smoke must complement the seizure of initial objectives ashore.

e. Screening the Helicopterborne Ship-to-Shore Movement.--The screening characteristics of smoke make it highly effective in denying the enemy observation during the helicopterborne ship-to-shore movement. Careful

planning and coordination are required to avoid adversely restricting the movement of helicopters. Each situation must be carefully evaluated to ensure that the use of smoke will be effective in denying the enemy observation and deceiving him. Plans for the employment of smoke originate with the helicopterborne force or higher commanders and are carefully coordinated with planning for the ship-to-shore movement. Close coordination with the helicopter unit and the ship-to-shore movement control organization is mandatory to avoid silhouetting aircraft against smoke curtains and blankets and to avoid creating conditions which blind, misdirect, or confuse the helicopter pilots. Sufficient deception smoke is normally planned to conceal the specific locations of approach and retirement lanes and landing zones.

(1) Smoke During Helicopter Approach.--For lengthy routes over enemy territory, smoke blankets are established over significantly occupied enemy areas within small arms range of the routes to be used. Additionally, obscuring smokes may supplement the blankets against known or suspected enemy positions, observation posts, and air defense positions. When the positions of air defense weapons are not accurately known, smoke curtains may be established to leeward of the route. For relatively short routes, wide smoke blankets may be utilized to cover enemy territory over the entire helicopter route. Smoke curtains may be established at various intervals along the approach route to conceal the approach of the helicopters until the last possible moment. These curtains may also deceive the enemy as to the direction of helicopter approach and routes to be utilized.

(2) Smoke Near Landing Zones.--Obscuring smoke is used against known and/or suspected enemy positions located on key terrain dominating the landing zone. Under ideal conditions of weather and terrain, smoke curtains may be emplaced on three sides of a zone leaving the open side for helicopter approach and retirement. In either case, care must be exercised to ensure that smoke does not interfere with operations in the landing zone. Consideration must also be given to the possible effects of smoke support near the primary zones upon the capability of the landing force to use alternate zones without undue restriction. Plans for the employment of smoke in support of alternate landing plans must also be examined to ensure similar freedom of action regarding the primary and other alternate plans.

7. SMOKE IN OFFENSIVE OPERATIONS

a. General.--Screening smoke has a variety of application in support of offensive operations ashore. When properly used, smoke can effectively support friendly offensive efforts and may be used in friendly territory, in enemy territory, or between locations controlled by the respective combatants.

b. Purpose.--In offensive combat, smoke is employed for various purposes. Smoke is best suited and most commonly used to:

(1) Neutralize enemy observation posts.

(2) Blind enemy direct fire weapons.

(3) Conceal friendly maneuver.

(4) Assist in gaining surprise.

(5) Deceive the enemy.

(6) Provide navigational aids.

(7) Mark targets.

8. SMOKE IN DEFENSIVE OPERATIONS

a. General.--Smoke is employed for the same purposes in the defense as in offensive operations. Smoke employed directly on an attacking enemy force can hamper him, confuse him, and significantly aid in the disruption of his attack. The use of casualty-producing smoke provides the bonus effect of simultaneously inflicting casualties while contributing to his disruption.

b. Primary Considerations.--Using smoke against an advancing enemy has some influence on the degree of emphasis that can be placed on certain fundamentals of defense. The selection of smoke in a particular area as a means of slowing or disrupting the enemy advance must be evaluated in regard to its effect on the application of the fundamentals of defense. The decision to employ smoke is made by the commander after carefully considering the net effect on the enemy of using smoke concommitant with any decreased emphasis on defensive fundamentals occasioned by its use in a particular area.

(1) Proper Utilization of Terrain.--Two most important aspects of utilizing terrain in the defense are observation and fields of fire. Good observation and clear fields of fire are essential to the accurate delivery of defensive fires. The use of smoke against a maneuvering enemy force normally results in a reduced ability to observe the enemy throughout the duration of its employment. The reduction in observation and the consequent decrease in accuracy of defensive fires must be offset by the impact of the smoke on the enemy and the defending unit's capability to capitalize on the resulting confusion, loss of orientation, and disruption of his advance.

(2) Coordinated Fire Planning.--Plans for the employment of smoke in the defense are closely coordinated with the overall defensive fire plan. Usually, the smoke plan is at least partially based on projected smokescreens from ground weapons. Plans for projecting smoke must be completely integrated into fire planning to ensure the availability of ammunition and weapons at the appropriate time to establish and maintain the screens. Plans for establishing and/or maintaining smokescreens using aircraft are coordinated with ground fires and other air operations. The effects of smoke upon the enemy force must compensate for adjustments made to the coordinated fire plan.

(3) Flexibility and Offensive Action.--Plans for the use of smoke in the defense cannot ignore the commander's requirement to maintain flexibility by centralizing the control of fires and planning the employment of an adequate reserve. Neither can the use of smoke disregard the commander's desire to maximize offensive action in defeating the enemy. Both flexibility and the offensive connote the maneuvering of one or more elements of a defending force. The employment of smoke in a given area must be equated to the requirements for defensive maneuver to ensure minimum interference with friendly movements. Where the use of smoke does impede defensive maneuver, the effects of the smoke on the enemy must offset the impedance. Detailed rehearsal of reserve movements and attacks can often contribute to negating the undesirable effects on friendly maneuver caused by using smoke.

c. Advanced Naval Base Defense.--Smoke may be profitably employed in the defense of an advanced naval base. Some of its possible applications are equally applicable to defense in any situation. The most frequent employments include:

(1) Smoke blankets placed on seaborne assault forces to confuse, disorient, interrupt, or delay enemy landings.

(2) Smoke blankets on airfields and/or helicopter landing zones to prevent, interrupt, or discourage enemy airborne or helicopterborne assault.

(3) Smoke blankets placed in areas attacked by the enemy with NBC weapons to impede enemy exploitation and allow time for friendly reorganization.

(4) Smokescreens to conceal vital installations and defensive dispositions from enemy observation and/or aerial reconnaissance. Screens must be sufficiently large to avoid pinpointing the area for the enemy.

(5) Smokescreens to conceal exposed targets and thereby reduce the effectiveness of enemy attack. Again, care must be taken to avoid pinpointing.

9. SMOKE IN A NUCLEAR ENVIRONMENT

a. General.--Smoke may be used for the same purposes on the nuclear battlefield as in conventional warfare. Bonus effects not normally attainable in a conventional warfare environment may be realized from employing smoke in nuclear warfare. Entire smoke plans may be conceived to deliberately take advantage of the following:

(1) Attenuation of thermal radiation.

(2) Psychological impact on the enemy of large scale use of smoke in an environment which demands increased readiness to defend against toxic chemical attack.

b. Smoke and Thermal Radiation.--Any atmospheric condition which affects visibility affects the transmission of thermal radiation. Since smoke is a suspended liquid or solid which reduces visibility, it can block up to 90 percent of thermal radiation when employed in high concentrations. Thus, smoke affords a means of reducing or attenuating one of the casualty-producing effects of a nuclear explosion. Smokescreens may be used to partially protect friendly forces from the thermal effects of enemy nuclear weapons or to increase the safety of friendly forces when employing nuclear weapons against the enemy in proximity to friendly positions. When smoke is employed to attenuate thermal effects, consideration is given to the bonus function of screening. Conversely, when smoke is employed for other purposes, the bonus of attenuation is considered. The employment of smoke on the nuclear battlefield requires that the lower surface of the cloud not rise above the point of nuclear weapon detonation. In such a case, thermal radiation reflected from the base of the smoke cloud reinforces direct radiation and results in an increased intensity of thermal radiation at ground level.

c. Psychological Impact of Smoke.--The nuclear environment contributes to magnified enemy apprehensions regarding the introduction of other mass

casualty weapons such as toxic chemicals. Increased apprehensiveness at command levels usually results in increased precautions aimed at early detection of the presence of toxic chemicals. The large scale employment of smoke for other purposes realizes the bonus effect of a reduced tempo of enemy reaction. The slowed pace results primarily from the need to confirm the absence of toxic chemicals and so assure his subordinates prior to fully reacting. The enemy's possible reactions to the psychological pressures of smoke should not be overlooked.

10. OPERATIONS UNDER SPECIAL CONDITIONS

a. Cold Weather Areas

(1) General.--Smoke operations in arctic regions or other cold weather areas present special problems that are common to all types of units. Preventive maintenance for individual equipment in arctic or other cold climates is contained in appropriate technical manuals.

(2) Meteorological Considerations.--On clear days, an inversion condition exists over snowy surfaces; this condition is strongest about sunrise. Smoke tends to remain near the surface and may travel for long distances before dissipating. Smoke clouds last longer under extreme cold conditions than under more temperate conditions. Snow or fog so reduces visibility that the amount of smoke ordinarily required for effective screening is greatly reduced.

b. Jungle Area

(1) General.--Since the jungle ordinarily affords concealment from air and ground observation, the value of smokescreening is extremely limited in jungle areas. In many instances, the use of smoke may be limited to coastal regions to conceal landings; in other areas, smoke may be used to conceal river crossings or to provide coverage of rivers used as routes of communication. Smoke is used to help prevent observation of helicopter landings. Smoke used in dense vegetation tends to spread slowly in a downwind and downslope direction and follow creekbeds and gullies.

(2) Meteorological Consideration.--In general, jungle weather is hot and humid and is characterized by sudden changes. Within only a few minutes, clear, hot weather may change to a torrential downpour. The humid heat of the day is often relieved by cool air from the mountains in the late evening. Wind speed in jungle areas normally does not exceed 2 miles per hour.

c. Desert Areas

(1) General.--All deserts, regardless of latitude, have certain characteristics in common: lack of water, absence of vegetation, large areas of sand, extreme temperature ranges, and brilliant sunlight. Because of the extreme temperature conditions existing in the desert, it is often difficult to make profitable use of smoke. Smoke may be employed to screen installations and the breaching of barriers and minefields, and to cover artillery positions at night to reduce muzzle flash.

(2) Meteorological Conditions.--The desert sands absorb heat from the sun and cause appreciable horizontal temperature differences which, in

turn, may cause whirlwinds. Sandy soil is heated during the day to such an extent that smoke operations become extremely difficult because of the rising currents of air. High winds and duststorms approaching hurricane velocity occur throughout the year. The most favorable atmospheric conditions for the employment of smoke exist on a clear moonlight night.

d. Mountain Areas

(1) General.--Mountain operations are characterized by the difficulties encountered due to terrain. The inadequate road nets found in sparsely settled mountain areas enhance the military value of existing roads and add importance to high ground which dominates other terrain.

(2) Meteorological Consideration.--In mountainous regions, wind shifts of 180 degrees within an hour are common. Steep hills split the winds so that eddying occurs around the hills as well as over them. Thermally induced slope winds occur throughout the day and night. These conditions make it extremely difficult to establish and maintain a smokescreen. To maintain an effective smokescreen, it is necessary to observe the screen carefully and to shift the bursts in accordance with the shifting winds. Wind currents, eddies, and turbulence must be continuously studied and observed.

e. Night Operations.--Smoke can be used advantageously in night operations. Obscuring smoke placed on the enemy at night interferes with his operations and his observation of our operations. Night vision devices are adversely affected. Both infrared radiation and visible light are attenuated approximately the same amount by smoke. The efficiency of light intensification devices can be reduced by utilizing smoke to attenuate the usable light energy. The employment of smoke against armor materially reduces its movement, direct fire, and observation capabilities. The night employment of smoke must be judicious so as not to interfere with friendly night movement, observation, and fire.

f. Counterguerrilla Operations.--Smoke may be used to deny guerrilla forces air and ground visual observation. This may include denial of observation of troop and equipment assembly areas, weapons positions, combat service support installations, river-crossing sites, objectives, and landing of helicopterborne forces. Care must be exercised when using smoke in counterguerrilla operations to ensure that the reduced visibility does not benefit the enemy guerrillas more than it benefits friendly forces. Smoke can be used very effectively in counterguerrilla operations for signaling purposes. It is an excellent means for air-ground coordination, especially when airborne command control helicopters are involved in all operations from company to division level. Smoke is valuable for marking flanks, positions of lead elements, emergency pickup zones, medical evacuation points, small landing zones, and locations of targets.

g. Employment of Smoke Against Tunnels.--Smoke may be used to force the enemy to evacuate tunnels, caves, and other enclosures. Smoke can be used to locate all entrances and vents of tunnel systems. The riot control agent disperser provides the commander in the field with a means for effectively blowing smoke agents into underground tunnels, caves, or other enclosures.

(1) Description of the Disperser.--The disperser is a portable backpack sprayer-duster powered by a 2-cycle gasoline engine and has an axial flow blower which displaces 450 cubic feet of air per minute. The

disperser weighs 25 pounds without fuel or agent. The fuel tank capacity is approximately 1 quart of a gasoline and oil mixture which will permit operation for 30 minutes without refueling. Two flexible tubes, 3 1/2 inches in diameter, are furnished with the disperser. One tube, which is 6 feet long, is normally used when attacking tunnels. The other tube, which is 2 feet long with a metal nozzle on one end, is normally used for dispensing dry powder or liquids in the open.

(2) Employment.--The disperser can be used in smoke operations to force evacuation of tunnels and to locate all entrances and vents of a tunnel system.

(a) Forcing Evacuation of a Tunnel.--When the disperser is used to force the evacuation of unmasked personnel from a tunnel, air is directed through the 6-foot flexible plastic tube into the tunnel opening which has been sealed with a poncho or tarpaulin cover. The smoke agent is introduced into the tunnel by raising an edge of the poncho or tarpaulin cover and dropping burning grenades in the entrance at intervals of 2 to 4 minutes. The use of HC smoke in the tunnels which are to be searched by personnel should be limited unless the personnel are equipped with oxygen masks. If a large tunnel system is encountered, more than one blower can be operated simultaneously at a tunnel entrance. A single poncho or tarpaulin cover can be used to seal an entrance with any number of flexible tubes in use. The time required for smoke to penetrate all portions of a tunnel system depends on the number of blowers used, the size and length of the tunnel, and the number of entrances and vents which cannot be sealed. The smoke will travel through a typical tunnel with no branches at a speed of approximately 50 feet per minute (0.5 mph) when one blower is used. As the smoke traverses the tunnel system, some of it will escape from other entrances or vents. (If the smoke is difficult to see, an occasional colored smoke grenade can be dropped in the tunnel entrance.) As these openings are discovered, they should be closed, if possible, to prevent the smoke from escaping, or additional blowers should be installed and operated in them. If all other entrances and vents are not closed, the time required for the smoke to penetrate the entire tunnel complex increases. It is desirable to continue burning grenades at intervals of 2 to 4 minutes as long as the blower is operating; but if this is not possible, the blower can be left untended and operating after any number of grenades have been burned. In any event, the blower should be kept in operation until the entire tunnel system has been penetrated by the smoke. The operating procedure at a tunnel entrance is as follows:

1 Place the blower on the ground approximately 3 to 4 feet from the edge of the hole.

2 Place the end of the flexible tube in the tunnel entrance.

3 Lay a poncho or tarpaulin cover over the entrance and on top of the flexible tube which is lying on the ground. Position the cover so that the entrance hole and at least 2 feet of the tube are covered.

4 Hold the poncho in place over the hole by placing a small mound of soil on the cover completely around the edge of the hole. Carefully push the cover under the sides of the flexible tube and place some soil around it to hold it in place.

5 Start the engine of the blower and set the throttle to run at maximum speed. Ocassionally check the throttle setting.

6 Don the protective mask. While the blower is in continuous operation, remove the safety pin from a single smoke handgrenade. Lift one corner of the cover, drop or throw the grenade in the tunnel entrance, and reseal the hole by placing soil or any available object on the corner of the cover that was raised.

CAUTION: Do not burn a grenade closer to the cover than 3 feet. Heat from the grenade could damage the cover.

7 If any of the smoke escapes from under the cover or around the tube, place more soil on the cover at the points of leakage.

8 Every 2 to 4 minutes, burn another grenade in the tunnel entrance to produce continuous smoke in the tunnel. Do not burn grenades in the tunnel at intervals of less than 2 minutes. A dangerous concentration could be produced.

(b) Locating All Entrances and Vents.--To determine the extent of a tunnel system without producing a smoke cloud, use colored smoke grenades and follow the procedure described in (a) above. Since a tunnel must have vents throughout its length, their locations can be determined throughout the entire system.

APPENDIX B

EMPLOYMENT OF THE DRAGON MISSILE SYSTEM

1. GENERAL

The development of the Dragon weapon system emanated from a long standing requirement to provide the infantryman with an improved capability to defeat armor and hard targets. A Dragon can deliver accurate first-round fire against selected targets out to a maximum range of 1,000 meters. It is man-portable and utilizes a command-to-line-of-sight guided missile. A Dragon is recoilless launched and automatically guided to the target by a tracker which issues electronic commands via a wire link to the missile. The system is designed so that it can be rapidly set up and fired by one man.

2. SYSTEM PURPOSE

The Dragon weapon system will be organic to the infantry battalion and used primarily to defeat enemy armor in both offensive and defensive operations. It may be employed either under centralized control or by attachment, or a combination of both.

3. GENERAL

a. The Dragon system will be organic to the infantry battalion. It will be integrated into an antitank/assault platoon of the H&S company. The Dragon's high single shot kill probability will provide an increased capability against armor and hardened point targets.

b. The Dragon system is organized within the Dragon missile platoon in the activation of one of the two sections consisting of a section leader and four four-man squads. A squad will consist of two teams, with a gunner and assistant gunner in each team. Under a contingency situation, the Dragon missile platoon would be fully activated and would consist of a platoon commander, platoon sergeant, messenger/driver, and two fully manned sections as previously described. The assistant gunners within the peacetime organization would become gunners within the contingency organization with new assistant gunners added to all teams. The Dragon platoon may be employed as a unit or attached by sections, squads, or teams to tactical units as the situation dictates.

4. ASSAULT OPERATIONS

a. The Dragon platoon may be employed as a unit or attached as sections, squads, or teams to rifle companies or platoons as the tactical situation requires.

b. The Dragon weapon system may provide direct fire support during the fire and maneuver phases of the amphibious assault. Dragon firings should be tightly controlled until the teams have closed with the enemy on an unrestricted line-of-sight to engage at maximum available ranges.

c. Movement during the offense must be rapid, from defilade to defilade; firing positions should be changed after each mission impact. This rapid displacement will offset the enemy's ability to engage teams with accurate direct and indirect fire whenever observed or selected firing positions are detected due to signature of the missile launch.

5. ANTIMECHANIZED OPERATIONS

a. During the execution of antimechanized operations, frontal firing of the Dragon weapon system should be avoided except when covering a sunken road. In this situation, the Dragon should be emplaced above and shooting down along the road.

b. The Dragon should be emplaced to the flank. This provides an advantage for the gunner as the tank crew generally directs their vision to the front.

c. Dragons should be echeloned laterally and in depth in conjunction with all other antitank weapons to ensure mutually supporting fires during mechanized attacks. Echelonment ensures adequate supporting fires to cover the displacement of weapons that have been fired and are moving to alternate or supplementary positions.

d. The Dragons must be emplaced and sited so that they are in defilade. The command-to-line-of-sight guidance system employed by the Dragon must always receive priority consideration.

e. Positive fire control procedures are maintained to ensure that weapons do not fire prematurely and that firepower is restricted to mechanized targets and not dissipated on lesser threats. Fires are held in check until there is a reasonable assurance of getting a first round hit and subsequent kill.

f. The Dragon teams must be covered with supporting fires. All means of antimechanized defenses are combined to provide an overall coordinated defense.

g. The selection of positions for the Dragon must be based upon complete and thorough reconnaissance. This selection process must keep in mind the various techniques and methods utilized by tank crews to detect, engage, and destroy antitank guided missile weapon systems. Complete reconnaissance includes observing the position from the enemy's viewpoint whenever feasible.

h. In all antimechanized operations, the Dragon must always have physical security provided by the infantry rifle units it is attached to or supporting.

6. LIMITATIONS

Specific limitations concerning the employment of the Dragon weapon system have been determined through testing.

a. Sun Interference.--As the line-of-sight to the target approaches the line-of-sight to the sun, system performance is degraded since the gunner finds it increasingly difficult to locate, identify, and track the target due to sun glare and background, and the tracker/infrared transmitter link deteriorates due to the increasing level of infrared radiation from the sun.

Tests were conducted to determine the minimum line-of-sight angle relative to the sun at which the tracker/infared transmitter link was adequately maintained. Observations taken through the sight during these tests indicated that the tracker/infrared transmitter link is maintained for sun angles that cause the target to be indistinguishable to the gunner. Therefore, the system limitation for sun angle is established by gunner capability rather than equipment performance.

b. Over-Water Firing.--Tests conducted during service testing indicate that the system performance may be degraded when firing over salt water. This is caused when a section of the guidance wire containing any insulation flaws is immersed over salt water. Maximum range over water is increased as the firing site is elevated or located away from the salt water. There is no limitation when firing over fresh water.

c. Prone Firing.--The weapon can be fired from the prone position; however, test results of prone firings against moving target engagements except, perhaps, at long range where lateral tracking movements are minimized. Firing angle limitations must be observed.

d. Simultaneous Engagement.--Weapons must be at least 30 meters apart and targets must be at least 30 meters apart to simultaneously engage two targets.

e. Firing Restrictions

(1) Launch Cant Angle.--Firing with the launcher not leveled in the lateral direction causes slight guidance errors and causes the gunner to track in the vertical as well as horizontal plane if the target is moving horizontally. Results indicate that hits can be achieved up to a 5-degree cant angle.

(2) Special Devices.--The wearing of earplugs is mandatory for personnel engaged in or associated with firing the weapon.

(3) Blast Area.--The Dragon missile has a hazardous back blast area. This danger area must be clear of personnel, equipment, and natural obstructions.

f. Range.--Missile range capability will be either reduced or increased if the target evaluation is above or below the launch point. The mean value of missile maximum range will decrease 108 meters for a target that is 10 degrees above the launch sight or increase 80 meters if the target is 10 degrees below the launch sight.

7. SAFETY

a. Obstructions

(1) During the launching of the Dragon missile, the danger zone to the rear of the launcher must be clear of personnel, equipment, and natural obstructions. Do not fire the Dragon system from confined spaces such as dugouts or the inside of buildings. Any obstruction too near the aft end of the launcher may deflect the launch shock toward the gunner.

(2) Do not fire the missile over power lines due to the possibility of electrical hazard.

(3) During training or target practice, the weapon should not be fired over personnel or materiel objects.

b. Ear Damage.--Failure to use proper earplugs during missile firing can result in hearing damage or loss of hearing. All Dragon crewmembers will wear type V-51R earplugs which have been properly fitted by qualified medical personnel.

c. Sighting and Aiming Precautions

(1) When the tracker is mated to the round, the weapon is in a ready-to-fire configuration. Exercise care to prevent an accidental firing.

(2) Do not look at the sun, flares, or searchlights while sighting through the tracker optical sight. Serious eye damage could result.

(3) Preliminary investigation by the Surgeon General indicates that eye damage can occur if the IR target is "stared at" at distances less than 50 meters. Personnel should observe this precaution either when using the optical sight or when viewing with the unprotected eye.

d. Firing Angle Limitations

(1) The gunner must not allow any part of the body to extend aft of the launcher as burns may result at time of firing. Hazards to the gunner may exist due to pressure waves and secondary debris.

(2) Firing from the prone position is not recommended.

e. Safety Fan.--The Dragon missile, being an open breech weapon, has a dangerous back blast area. The danger area is shown on the Dragon safety fan contained in U.S. Army TM 9-1425-48-10. The danger area must be clear of personnel, equipment, and natural obstructions.

f. Missile Storage and Handling.--Packaged rounds stored outside must be stacked 6 inches off the ground on dunnage and covered with fireproof tarpaulins or other suitable covering. The covering must allow free circulation of air among and over the containers. Suitable trenches should be dug to prevent water from running or standing under the stacks during inclement weather. The forward end of the containers must all point in the same direction, and toward a safe area as a precaution in case of accidental ignition. The temperature limits marked on the container shall be observed, especially during outdoor storage.

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FMFM 5-6, Air Reconnaissance
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FMFM 7-2, Naval Gunfire Support
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INDEX

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